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# MUNICIPAL GOVERNMENT AND ADMINISTRATION

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# MUNICIPAL GOVERNMENT AND ADMINISTRATION

BY

WILLIAM BENNETT MUNRO, PH.D., LL.B.
PROFESSOR OF MUNICIPAL GOVERNMENT IN
HARVARD UNIVERSITY

VOLUME II
ADMINISTRATION

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1923

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Set up and electrotyped. Published September, 1923.

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# VOLUME II

# ADMINISTRATION

# MUNICIPAL GOVERNMENT AND ADMINISTRATION

## CHAPTER XXIII

## THE ORGANIZATION OF CITY DEPARTMENTS

Importance of the Administrative Organization.

One of the most important problems connected with the efficient management of municipal affairs is that of determining the number, organization, and relation of the various departments among which the work of administration should be divided. In American cities this matter has had astonishingly little attention until recent years. Municipal reformers have exaggerated the importance of establishing some particular type of city government, as though the whole problem of securing honest and economical administration could be solved by replacing a mayor and council with a commission, or by telescoping two chambers of the city council into one, or by shortening the ballot, or by electing the councilmen on a basis of proportional representation rather than in the old fashioned way. The political provisions of city charters have been the center of interest and discussion in America; while the desirability of equipping the city with the right sort of administrative mechanism, has received far less recognition than it deserves. There is some relation between good political framework and good administration, to be sure; but there is an even more intimate relation between good city administration and the right sort of administrative machinery.

Good Administration Does Not Depend on the Form of City Government.

The general frame of government may be clumsy without entirely precluding (although it may handicap) the achievement of honest and economical administration. The whole history of English city government affords an illustration of this. New York City, during Mayor Mitchel's term, was encumbered with what one writer has properly termed "the most unscientific instrument of government ever inflicted upon a helpless munici-

pality by a politically hostile legislature."[1] Nevertheless the city's affairs were better administered during these years than at any previous time in its history. This was because the mayor and his chief associates set out to improve the methods of conducting routine business, and gave politics a vacation. Conversely, it has been demonstrated by the experience of many other cities that even a complete reconstruction of the political framework, with no toning up of the administrative organization and methods, will fail to accomplish anything substantial in the way of beneficent results.

**It is a Matter of Attention to Routine.**

So long as municipal reform concerns itself only with such matters as the length and form of the ballot, or the type and size of the council, or the title and prerogatives of the chief municipal executive, and so long as it disregards the necessity for departmental co-ordination, intelligible accounting, unit cost-keeping, service-records, improved methods of budget-making, and all the rest—it hardly deserves the name of reform at all. It is not enough to stipulate in a city charter that "accounts shall be kept," or that "reports shall be made," or that "contracts shall be advertised." Such general injunctions rarely get more than a gesture of observance. What the modern city requires is a scheme of business routine as explicit as that laid down for the guidance of the officials in every other large administrative enterprise, the post office, a railroad, an insurance company, or the quartermaster corps of the army. Think of the tangle the post office would get itself into if the postal regulations were no more explicit than the provisions of city charters and ordinances!

**How Should This Routine be Determined: by the Charter or by Ordinance?**

This suggests, however, a preliminary question. Should the details relating to methods of administration be incorporated in the city charter or should they be left for determination by ordinance? The usual practice has been to embody numerous administrative provisions in the city charter, on the ground that they are too important to be left to the discretion of the municipal authorities. The objection to doing this, however, is that it makes the charter too bulky. It also tends to stereotype the city's administrative organization. When once you begin the incorporation of administrative provisions in a city charter there is no logical place to stop. And once incorporated they are

[1] Henry Bruère, *The New City Government* (New York, 1912), p. 364.

difficult to repeal or amend, even though changed conditions have rendered them obsolete or unsuitable. Too great an elaboration of details in city charters ought to be avoided for the additional reason that the more intricate these provisions the greater is the opportunity for subterfuge or evasion. The average citizen does not hold it a serious offense when a municipal officeholder departs from some technical requirement which only legal experts can interpret and about which even these experts may disagree. On the other hand, if the administrative arrangements are left to be determined by ordinance, the charter is shortened and clarified, changes in organization and methods can be made with little delay or trouble at any time, and the incentives to evasion are diminished. Flexibility is given to the administrative system—too much flexibility, perhaps. The city council (or the commission) being permitted to change the number, organization, or methods of the city departments at its own discretion, is liable to make changes frequently and to be actuated by partisan or other irrelevant motives in doing so.[1] Charter-makers are afraid to trust city councils with this authority.

**A Compromise Suggestion.**

As a compromise it has been suggested that the city charter should contain only the political provisions, the provisions relating to the frame of government, and a limited number of general administrative requirements. But accompanying the charter there should be an administrative code incorporating the details of departmental organization and procedure. This code, settling all important matters of business routine, would not be as easily alterable as an ordinance nor yet as difficult to change as are the charter provisions.[2] There is a good deal to be said for this arrangement, especially in the case of the larger cities, but it has not yet been given a trial anywhere.

**Putting "Business" Methods Into City Administration.**

It is commonly said that a great deal of unprofitable expenditure in American cities is the outcome of a failure to insist upon

[1] When a newly-elected city government, for example, desires to turn a lot of officials out of office without running foul of the civil service rules it need only provide by ordinance for the abolition or consolidation of various departments and the creation of new ones, which will perform the old functions under a different name. When new departments can be created at any time by ordinance there is a constant temptation to increase their number in order to provide new jobs.

[2] It might be arranged, for example, that provisions in the administrative code could be changed by a two-thirds vote of the city council,

the use of *business methods* in the conduct of city affairs. Even honest and well-intentioned public officials, we are assured, cannot prevent leakage and waste unless a business-like routine is established for them to follow. This is probably true, and it explains in no small measure the thrifty municipal housekeeping that was so characteristic of German city government before the war. If the right methods are not made mandatory the officials will devise some makeshifts of their own. When outside accountants or other experts are called in to investigate the methods in some city department they are always met with the assurance that everything is ship-shape, records complete, all essential data at hand, everything checked and correct. This, the officials of the department explain, is due to the home-made but ingenious "system" which they have themselves devised and installed. But the investigators do not have to go very far before they discover that the routine is full of flaws, that records are incomplete and often worthless, that the cost-data is inaccurate, and that the main value of the "system" has been to provide work for a lot of political satellites as clerks and bookkeepers. To install a modern system of record keeping and cost accounting in any branch of the public service is no task for an amateur. Political satraps only make a mess of it.

Very Little of the City's Work is *Government.*

Is it desirable, however, that the routine methods of every city department should be placed upon a business basis? Reformers are in the habit of assuming, as a self-evident proposition, that the city's work is broadly analogous to that of a business corporation and that the officials of both ought to function under a similar procedure.[1] And the analogy, on its face, seems good. Go through the annual reports of the various departments in any American or foreign city and what will you find? An account of how streets have been paved, water purified and distributed, school buildings constructed, supplies purchased, labor employed, money collected, and money paid out. Few people read these reports, but the thoughtful man or

[1] Judge Dillon, for example, in his notable work on *The Law of Municipal Corporations* writes as follows: "In many of its more important aspects a modern American city is not so much a miniature state as it is a business corporation, its business being to widely administer the local affairs and economically spend the revenue of an incorporated community. As we learn this lesson and apply business methods to municipal affairs we are on the right road to better and more satisfactory results."

woman who takes the trouble to look them through is strongly tempted to query why anyone should call these things *government*. They look very much like *business*. Why, then, should they not be handled by an organization which is akin to a business organization, and by the use of methods which have been tested and found efficient in the realm of business?

Most of the City's Work is *Business*.

Now there is a good deal to be said for this point of view. A large part of the work which the city officials perform is of a business rather than a governmental nature. To the task of making laws and enforcing them they devote a relatively small portion of their time. The great majority of city officials and employees are engaged in rendering social and economic services —teaching in the schools, preserving public order, caring for the public health, supervising playgrounds, building streets, inspecting markets, safeguarding the water supply, removing waste, putting out fires, and figuring tax bills. These services ought to have no political or partisan flavor. There is a right and a wrong way of performing them, but no Democratic or Republican way. The main thing is that the work shall be done, as similar work is done under competitive conditions, with intelligence and honesty. We have had too much government in business and not enough business in government.

But Not All of It Can Be Managed According to Business Principles.

Nevertheless there is danger of pressing this business analogy too far. The aim of organized business is to secure a profit; the purpose of municipal administration is to promote the collective interests of the citizens without reference to monetary gain. The city's mission is not to make money but to spend money. Business must produce a surplus, but government does well when it makes both ends meet. In any event, government must be conducted in compliance with the desires of the voters, whatever these desires may be, and must give them what they want. Business can be managed without scrupulous heed to public opinion, but municipal administration cannot. Even though popular sentiment be headstrong and unwise it cannot be set at naught. The desires of the people must ultimately prevail even though they may not conform to what the experts prescribe as the best or the cheapest. Government by the best people, in other words, is not necessarily the best government. Nor is cheapness a criterion of efficient administration. The city is not a voluntary corporation; it is a compulsory asso-

ciation into which the citizen is born. He does not join it of his own volition. That is another fundamental difference between a municipal and a business corporation which is too often overlooked. It is because of this differentiation that the municipal authorities are obliged to be governed by social motives which do not actuate the ordinary business concern.[1] They cannot do their planning in terms of dollars and cents, profit and loss, unit costs, and outlay per capita. They must reckon with the prejudices, the traditions, and the caprice of the electorate.

**It Depends on the Nature of the Work to be Done.**

The strength of these social considerations is not the same, of course, in all departments of municipal activity. Some things lend themselves, practically without reservation, to the use of business terminology and methods. This is true of the physical activities, such as the construction and maintenance of public improvements. But it does not hold true in equal degree of those municipal departments which have mainly to do with human relations, for example, poor relief, correction, and public recreation. Only to a limited extent can such departments be organized and conducted on a "business basis" without the danger of creating a hostile public sentiment. Success or failure in the administration of these departments cannot be demonstrated by pointing to columns of figures or by applying purely objective tests of any sort. It is a matter of good and humane service, something which cannot be measured by the devices of accountants and statisticians.

**The Administrative Organization of the English City:**

Nowhere but in America has the analogy between municipal and business corporations been permitted to exert any considerable influence in determining the mechanism and methods of city administration. In European communities it is taken for granted that city government is government. The administrative systems hold close to the traditional lines of governmental organization, particularly in keeping the heads of departments under the control of the city council. In England, for example,

[1] "A stockholder in a private corporation measures the value of his investment by the dividends he receives. This is tangible. The citizens of a community, who some argue are the stockholders of a municipal corporation, get their dividends in service which does not bear any relation to the amount each is compelled annually to invest in the form of taxes. The investment of a stockholder in a municipal corporation is, therefore, intangible." W. P. Capes, *The Modern City and its Government* (New York, 1922), p. 46.

the plan of administration by council committees is far removed from the orthodox method of corporate business management. The English city has no official corresponding to the president, managing director, or general manager of a company. Each municipal department (streets, police, fire protection, and even education) is under the immediate charge of a permanent official whose work is supervised by a council committee. This committee, however, has no final authority; the council as a whole may overrule it on any point. In practice it does not often do so, hence the gap between the potential and customary action of the council in administrative matters is an outstanding feature of English municipal government. From a study of the English municipal code one would put the situation in this form: "The council is supreme in the administration of the English cities; it appoints all officials and may remove them at will; it appoints all committees and may accept or reject their recommendations as it sees fit." 1. In Theory.

But the observer of English municipal administration in actual practice would state the case quite differently. He would describe it in some such fashion as follows: "The immediate direction of each municipal department is entrusted to an expert official whose tenure of office is permanent. Having placed a chief constable in charge of the police, or a health officer in charge of the health department, or a superintendent in charge of the lighting plant, the council appoints a committee to keep in touch with him, to back him up, to see that he gets a reasonably free hand so long as he produces results. The committee, through its chairman, reports regularly to the council on the affairs of the department and transmits recommendations from the permanent official with its own endorsement. These reports and recommendations the council usually accepts as a matter of course." 2. In Practice.

Thus the law and the practice stand widely apart. A strange scheme of municipal administration, the American efficiency expert would call this English plan! Responsibility seems to be concentrated nowhere. The head of a department advises, the chairman of a committee concurs; the committee itself endorses; and the whole council approves. There are opportunities for a reversal of decision and a disclaimer of responsibility at each point. In an American city such a plan would

bring the affairs of the municipality to chaos within a month. It functions smoothly in England because the diffusion of responsibility which exists in form does not exist in fact. "The form of a government," as Edmund Burke once said, "reaches but a little way."

The Administrative Organization of the French City.

In the cities of France the general plan of departmental organization is similar in most of its essentials to that which exists in England. The city council controls the various branches of municipal administration because it elects from its own membership the mayor and adjoints who have charge of them. It also appoints committees to advise these officials. It is true that having chosen the mayor and adjoints for a four-year term the council has no legal right to dictate how these officers shall perform their duties, but in practice this absence of direct legal control is not of great consequence. The reason has already been explained and need not be restated.[1] The English council supervises the departments through committee-chairmen and committees; the French council performs the same function through adjoints and committees. The French adjoints, like the English chairman of committees, are laymen who defer to the judgment of the officials in immediate charge of the work. In France most of these permanent officials are nominally appointed by the mayor but in reality they are chosen by a competitive examination.

The Administrative Organization of the German City.

German cities have been commonly thought of as administered by professional experts, and it is true that the powers of the higher administrative officials stand out more clearly on the pages of the statute book in Germany than in England or in France. But the difference has often been exaggerated. The German municipal council selects the *Bürgermeister* and his assistants, the administrative magistrates. These magistrates, each of whom is at the head of a municipal department, are assisted by joint commissions (*Deputationen*) in which the council controls a majority of the members. The administrative magistrates of the Prussian cities correspond, in a way, to the chairmen of the council committees in England and the adjoints in France. They are, as a rule (though not always), men of longer and broader administrative experience; they are named for longer times, and some of them receive salaries, which gives

[1] See Vol. I, Chap. XVIII.

them a professional status. But the German administrative magistrate must reckon with his joint commission and this body the council controls. Here, as in the other countries, however, the permanent officials have dominated the course of administrative policy; prior to 1918 their influence was virtually conclusive.

The Essentially Uniform Feature in All of Them: The Influence of the Expert.

Fundamentally, then, there is no difference among the cities of the various European countries as respects the actual organization and workings of their administrative machinery. The pivotal point in every case is a properly qualified and adequately paid official at the head of each municipal department. Whether he be known as borough surveyor, *surintendant des travaux publics,* or *Baurat* his influence in all matters affecting municipal public works is everywhere very much the same. Directly or indirectly he is chosen by the city council; his tenure of office is secure; he is assisted or advised by a council committee (or by a joint commission in which members of the council predominate); he is a qualified expert; and his advice is heeded. German cities have both the form and the spirit of professional administration; English and French cities have the spirit without the form. In all three countries the most potent factor in securing efficient administration is the tradition of deference of the advice of the expert. In outward appearance the business of the city is managed by elected laymen—aldermen, councillors, chairmen of committees, adjoints—but the real work is always done by men who are skilled in the technique of municipal administration.

How These Experts Function.

The influence of the permanent officials in all branches of European government is exerted quietly, inconspicuously, and without any fuss; but the results are easy to observe.[1] It is an influence which rests on traditions, not on laws; and in the practice of government it is traditions that count. The essential difference between the practice of municipal administration in Europe and America is this: In Europe, no matter what the laws

[1] "In form the city government is democratic, the whole power being vested in a council which issues from a popular vote. But the council works through a body of expert administrative officers, who are virtually permanent, and for whom municipal service is a life-long career. Moreover, although in outward appearance the city business is conducted by the council and its committees, one cannot go very far under the surface without finding that in fact the influence of experts, both on current administration and on civic policy is very great." A. Lawrence Lowell, "Experts in City Government," in the *New Municipal Program* (New York, 1919), p. 31.

may provide, the influence of the professional department head is controlling; in America the laws and the practice harmonize. The influence of a mayor, or a department head, or a city council upon the course of municipal administration depends in America upon the amount of definite authority vested in them by the city charter. Elective officials do not permit themselves to be directed by those who, whatever their professional expertness, are legally rated as subordinates. When laymen have the authority in American cities they expect to exercise it; that is the American tradition. When laymen have authority in Europe they expect professionals to exercise it for them; that is the European tradition.

The Problem in American Cities.

In the United States, as has already been shown, the power of the city council to exercise any substantial control over the work of the city departments has been almost everywhere taken away. The council does not appoint the heads of departments; its committees do not control the work of these officials. If the board of aldermen or the city council in New York, Philadelphia, Boston or St. Louis were to appoint a committee to "assist and advise" the head of a department—the fire department, let us say—such action would be resented by the mayor as an interference. The council's function is to vote the money; the mayor and the administrative officials do not desire any aid in spending it. In cities which retain the mayor-and-council form of government the gap between the council on the one hand and the administrative officials on the other is far wider than anywhere in Europe—and it seems destined to become even more so. American cities, for the most part, are under the spell of a conviction that ability to legislate precludes ability to administer. The creed of the intelligent layman on this point is brief and plausible; it may be stated as follows: "Legislators should be elected, and should be responsive to popular opinion; administrators should be appointed; they should have technical skill and knowledge. If we try to place the performance of both functions in the hands of the same men we sacrifice either the responsiveness or the skill, usually both." In cities which have adopted the commission form of government, which fuses the two functions, this objection is continually being urged.[1]

The increasing amount of administrative work which must

[1] See Vol. I, Chap. XX.

How Many Departments Should a City Have?

now be performed in every large city makes the problem of departmental organization a difficult one. How many administrative departments should a city have? What principles should be followed in allotting the work among them? Should departments be in charge of boards or single commissioners? How should the department heads be selected? Should they be qualified experts? Along what lines should the internal organization of each department be constructed? What can government learn from business in this field? These are questions which come up for discussion wherever new city charters or charter amendments are under consideration. Their timeliness entitles them to all the thought they have been getting, and more.

The Question Cannot be Answered Categorically.

It would be sheer folly, of course, to attempt to determine, by general rule, the number of administrative departments that a city should have. It would be like issuing a dictum that every house ought to have five, seven, or ten windows without regard to its size, use, or orientation. A city has a varying number of administrative functions to perform, the number depending upon its size, its resources, and the extent to which it has branched out into new fields of public service. Some cities own and operate their lighting plants and street railways; some do not. The wider the scope of a city's activities the more administrative machinery it needs. This ought to be a commonplace but it is not, as witness the "model" schemes of administrative organization which are periodically put forth for the guidance of all cities whatever their size or problem.[1] The commission plan, as has been shown, is the most conspicuous transgressor in this respect.[2]

Two Considerations Should Govern the Answer:

Two considerations, one may suggest, ought to be influential in determining the distribution of administrative work among city departments. They are as follows: First, the number of departments should not be increased beyond what is necessary

[1] The *New Municipal Program* of the National Municipal League, for example, provides for six departments, no more and no less. These are Law, Public Works and Utilities, Safety and Welfare, Health, Education, and Finance.

[2] "The departmental organization under the commission plan is far superior to that in most of the federal type cities. The number of departments usually is determined by the number of commissioners and other elective officials." W. P. Capes, *The Modern City and its Government* (New York, 1921), p. 130. This is the wrong way to determine it; the number of commissioners should be determined by the number of departments.

for the efficient conduct of the city's business. Second, functions which are similar should be placed in the same department, while those which are dissimilar should be kept in different departments.

1. There Should be as Few Departments as Possible.

The first of these two propositions will hardly be disputed. The distribution of administrative work on too elaborate a scale leads to a waste of effort. There is a law of diminishing returns which begins to operate at a certain point in the subdivision of administrative labor; beyond this point (wherever it may be) the multiplication of departments does not facilitate but hinders the proper conduct of the city's business. Twenty-five years ago most American cities had too many departments. Some have too many even yet. Boston, for example, has more than thirty; Chicago has about twenty-five. Of late, however, the number of departments has been almost everywhere reduced; the process of reduction and consolidation has gone so far, in fact, that there is a danger of its overreaching itself. The evil of having too many departments is being replaced by the evil of having too few. Administrative reformers have a habit of assuming that the consolidation of two departments into one always makes for efficiency, no matter how far the process may be carried. But merging two departments into one accomplishes no useful end if it means that widely different functions are thereby grouped together under a single head.

2. But Unrelated Functions Should Not be Combined in One Department.

Reason for This Latter Consideration.

The objection to putting unrelated matters into the same department is that some of them, when this is done, are certain to be neglected. The head of the health department, to be worthy of his place, should be primarily interested in public health matters. Unless he is an uncommonly versatile man he will not be interested, for example, in tree-planting, free legal aid, the regulation of billboards, employment bureaus, the inspection of weights and measures, the censorship of amusements, or any one of a dozen other functions which, however secondary they may be in relative importance, ought to be given proper attention by someone whose personal interest they can command. If any of these functions, therefore, are thrown into the health department, for the mere reason that the general administrative scheme provides no suitable place for them elsewhere, they are likely to be accorded very little attention by the head of that department. On the other hand it is obvious

that a city cannot maintain a separate department for every municipal function, big or little. No one would suggest, in smaller cities at any rate, the maintenance of individual departments for the issuing of building permits, the removal of garbage, the repairing of sidewalks, or the abatement of nuisances. These things must be combined with something else. So the problem is a practical one, to be solved by listing all the functions, classifying them, grouping those which from their nature can be conveniently and properly grouped, and deciding the number of departments in that way. It may be eight, ten, a dozen, or even more in a large city.

**Some Important Questions That Arise in Connection With the Allocation of Administrative Work.**

Charter-makers usually begin with this problem at the wrong end. Their first step should be to make an inventory of what the administrative authorities are expected to do. This inventory will provide a surprisingly long list in any large city—fifty or sixty distinct administrative functions at least. Most of them, however, will fall readily into seven or eight functional groups, such as finance, public works, public safety, public health, poor relief and correction, education, parks and recreation, public utilities. But there will be some which do not seem to belong in any one of these functional groups and yet are not of sufficient importance to have departments to themselves. Some administrative activities, moreover, seem to have equal affiliations with two departments. Take the work of establishing, equipping, and supervising playgrounds for example. Where does this properly belong—with public works, or with parks and recreation, or with education? Should public playgrounds and athletic fields be under the jurisdiction of the park department or the school board? Either disposition may be plausibly defended. The work of acquiring land for recreation purposes, improving it, and caring for it, is closely akin to the customary work of the park department. Considered as a physical property there is no great dissimilarity between a public park and a playground. Regarded from the standpoint of its activities, however, the playground is an educational institution and as such links itself up closely with the work of the schools. A playground without supervision falls far short of its highest service. Supervision is the aspect which should have the emphasis and being a form of instruction it can best be provided by the school authorities. In some cities, the playgrounds have been grouped

with parks, in others, they have been tied up with the schools; in others, again, they have a department to themselves.[1]

The Interrelation of Departments.

So with many other matters on which more than one department may have a claim. Does the management of a municipal cemetery, for example, belong properly to the park department or to the health department? Should "parkways" be regarded as parks or as streets for administrative purposes? Is garbage collection a matter of public health, or of public convenience? What of the public library? If a city is to have only seven or eight departments, the public library cannot have a department to itself. Where should it go? Some argue that, being an educational institution, the public library should be administered by the school board. Should the censoring of motion pictures be entrusted to the police, or to the park and public recreation department, or to the school authorities, or to a separate board? These are practical questions; they certainly cannot be answered by stating any formula that will hold good for all cities. It is a good deal easier to say that "related functions ought to be kept together" than to decide what the relationships really are.

The Test of Related Functions.

In determining whether functions are related in fact, and not merely in appearance, one should look primarily at the nature of the problems which are encountered in performing them. In some branches of the city's work the chief problems are of an engineering, technical, and constructional character. In this respect water supply and sewage disposal are closely allied, even though superficially they might seem to be at opposite poles. The one brings to the city a something that is essential to life and health; the other takes away from the city a large volume of waste which is dangerous to life and health. But this superficial dissimilarity is of no real consequence when it comes to determining whether the two departments should be combined. Different in aims, they are alike in their problems. Various groups of municipal functions, again, have to do with the problems of finance, or of instruction, or of personal contact and supervision. Each has its own bonds of kinship. Police and fire protection have an intimate relationship in that both are concerned with the public safety, both are organized on a semi-military model, and both have as one of their most difficult problems the maintenance of discipline in the ranks. But there

[1] For a further discussion of this topic, see Chap. XXXVIII.

is no relationship between police and poor relief, for example, in purpose, methods, or problems. These two municipal functions call for administration by officials of altogether different aptitudes and temperaments.[1]

The Articulation of the Departments.

Whether the number of departments be small or large it is also essential that they be properly articulated. The work of administering a city is an entity, a rather complex entity it is true, but nevertheless a unified enterprise. No part of it should be aloof from the rest. No department, to borrow a war metaphor, should "march with its flanks in the air." Every branch of the municipal administration should be linked to a common center; the lines of control and responsibility should converge upward and inward. The whole scheme should take the form of a pyramid, with the mayor or city manager at the apex, the city employees at the base, and the hierarchy of officials in charge of departments, bureaus, divisions, and sections coming between. This, however, is not what one usually finds. Some heads of departments are chosen by the mayor and are responsible to him; others are directly elected by the people and do not hold themselves accountable to the chief executive. The result is that the two groups often work at cross purposes. The elective head of a department desires to make a reputation for himself by devising his own policies and pursuing his own methods. His lodestar, too often, is the ambition to get himself elected mayor some day. Why, then, should he exert himself to make the present mayor's administration a conspicuous success. Unless the heads of all departments are responsible to a common center there can be no complete unity of program.

The Board System of Departmental Administration.

A generation ago the board system of departmental management was widely used in American cities. This was in part due to a popular impression that municipal administration ought to be bi-partisan; that the minority political party ought not to be excluded from a share in it. In a board of three or five members both parties could be represented, whereas in a department with a single commissioner at its head no dual representation could be afforded. The work of bi-partisan

[1] Some people now call themselves "social engineers" because they profess to be specialists in the humanitarian handling of poor relief and kindred problems; but there is no resemblance, either in education, methods, or point of view, between the social engineer and any other kind of engineer.

boards proved very unsatisfactory, however, for the membership almost invariably lined itself up three against two, or two against one. The plan was especially objectionable when applied, as it often was, to the police, fire, and health departments, in all of which there is need for prompt, firm, and unequivocal action. Dissensions at the head of the department reflected themselves in lax discipline all the way down. During the past twenty years the cities have been replacing police boards, fire boards, and boards of health by single commissioners. Some cities still retain the board plan; but except in small communities it rarely gives satisfaction. And when you reflect upon it there is no more reason for placing a board in charge of the police department than for setting a board of generals at the head of an army. A police force is a battalion or brigade of armed men, drilled and disciplined, whose function it is to cope with emergencies affecting the public safety. It does not lend itself to hydra-headed leadership.

Its Defects.

The Board System in the School Department.

On the other hand there are certain departments which, from the nature of their work and problems, are by no means so obviously unsuited to the board system. The school department is perhaps the best example. Unrestrained control of educational policy should not be given to any one official, whether layman or expert. In the community which supports the public schools there is bound to be a variety of opinion and sentiment on questions of educational policy, and it is proper that these diverse points of view should be represented. Among all departments of American municipal administration the school department, taking the country as a whole, has been the most honestly, economically, intelligently, and progressively managed. It is there that scandals have been fewest, wastefulness the least prevalent, and progress the most notable. The American municipal taxpayer comes nearer to getting a hundred cents in value for every dollar of expenditure in this department than in any other. This is due, in part, perhaps, to the fact that it has been somewhat easier to eliminate the spoils system from school administration than from the other departments of the municipal service. But it is not without significance that the school department is the only one which has succeeded in establishing and maintaining that combination of lay supervision with professional management which is so characteristic a feature of municipal adminis-

tration in European countries. The superintendent of schools in American cities is the only administrative officer who occupies a status and exerts an influence comparable to that of the permanent city officials abroad.

Other Departments in Which the Board System is Worth Retaining.

The board system is still rather generally used in the administration of poor relief, and to the work of this department it lends itself very well. Municipal public libraries in American cities are also, for the most part, in charge of boards. Board supervision is also commonly applied to public utilities, city planning, and recreation. It is the only fair plan, moreover, in the case of the department which has charge of registering voters and conducting elections, inasmuch as bi-partisan representation needs to be accorded here. But in departments other than those mentioned the preponderance of argument is in favor of the single commissioner plan. It conduces to the concentration of responsibility, to greater promptness in action, and to a better morale among subordinates.

The Board System Permits Continuity of Policy.

The board system is in greater disfavor than it deserves to be. People are inclined to see only its shortcomings and to overlook the fact that board administration, under certain conditions, has much to recommend it. When continuity of policy, for example, is a desideratum in any department (as it is in the case of public works) the board system provides a means of securing it. When a single commissioner goes out of office and a new one comes in, there is likely to be a change in plans and methods. The new commissioner feels that he must signalize his advent by taking the department out of the old ruts. He does not want to display his lack of initiative by merely taking over where his predecessor left off. Old plans are therefore thrown aside and new ones announced. But before the new commissioner brings these plans to fruition his term comes to an end; he gives way to someone else and the process of substituting still newer methods is repeated. When public works are undertaken by a board, on the other hand, the members do not all go out of office at once, and there is an element of continuity. One member retires and is replaced; but the others hold over and carry the old traditions along. This is a consideration of some importance in departments where drastic reversals of procedure are likely to involve the city in heavy expense. Many cities have had costly experiences along this line. One com-

missioner of sanitation, for example, believes that the work of garbage collection should be done by the city's own labor force. So he proceeds to buy a squadron of trucks and adds a considerable force of drivers to the city payroll. But just about the time the new plan has shaken itself into smooth working order an election takes place, a new mayor comes in, and a new commissioner is appointed. Then the public learns that the direct-labor plan of garbage collection is too expensive or too slow, or that there is something else the matter with it, and that the new administration proposes to have the work done by contract. So the trucks are sold at a loss, the other appliances are junked, and the workers are either discharged or shifted into other city departments. These reversals of policy, back and forth, do not come with every change in administration, but they are much more frequent in public than in private business.

And in Smaller Cities it is Economical.

The board system is sometimes defended on grounds of economy. In small cities, or in the eleemosynary departments of large cities, it is often possible to obtain, without remuneration, the part-time service of public-spirited citizens, thereby saving the salaries which would have to be paid to full-time department heads. One frequently hears the assertion that expert officials, giving undivided attention to their work and keeping a sharp lookout for leakages, can easily save the city the amount of their salaries. That is quite true. But it is also true, unfortunately, that when cities abolish unpaid boards and replace them by salaried heads of departments they do not always manage to get service that is expert in character or diligent in saving money. Too often the replacement of an unpaid board by a single commissioner merely adds to the public payroll another professional politician who devotes to the work of the department less intelligence, less thought, and less time than it received under the board plan.

Single Heads of Departments: How They Are Chosen in American Cities.

This points to a serious defect in the American system of municipal administration, and one which has been frequently commented upon by foreign observers, namely, the failure to devise a satisfactory method of selecting the paid heads of departments. In Europe these officials are everywhere (with a few exceptions) chosen by the city council. That also was the method of selection used in American cities during the first half of the nineteenth century. But it proved unsatisfactory in this

country and was almost everywhere abandoned. In its place several other plans were devised and are still being used. Direct election of department heads was given an ample trial and found to be, on the whole, no better than election by the city council. Popular election, as American municipal experience has proved, is one of the poorest methods of securing skilled administrators for any branch of governmental work. The voters will not hesitate to choose an official who is entirely lacking in administrative ability or training provided he is well-known, popular, and a good campaigner. So the plan of appointment by the mayor, either with or without confirmation, was next resorted to and is the method most generally employed today. This plan embodied a step forward, although its results have naturally varied with the ideals of the mayor and the local traditions which attach to his office. Good mayors appoint capable heads of departments where given the opportunity to do so; but when a political spoilsman succeeds in capturing the mayoralty (as not infrequently happens) it is idle to expect that he will use his appointing power for other than partisan or personal ends. And that is the way it is being used in most American cities today. In many instances the departmental heads who are in charge of such important functions as street paving, sanitation, water supply, parks, and public buildings are men of no acknowledged competence; they would not be entrusted with equal responsibilities or given the same salaries in any field of private business. These men, in the larger communities, are spending millions from the public treasury. They have hundreds, sometimes thousands, of city employees under them. Yet it is a commentary upon their business ability that when the head of a department loses his position through a change of mayors he sometimes has a hard time finding a job at half the salary anywhere outside the public service.

The Qualifications of a Good Administrator.

The successful head of a city department must be honest, fair-minded, and willing to work. He should be willing to exert authority and to assume responsibility for it. He should be a good judge of what the public wants, and hence able to discern, before he does a thing, whether it will prove popular or unpopular. He should have, in a word, what the army personnel ratings call "general value to the service." But this it not all. No amount of personality will avail to make a department head

successful unless he knows the technique of his job. Technical training and experience are highly desirable in all cases; and for the best results they are essential.

They Are Easier to Specify Than to Find.

It is easy enough to set down on paper that the ideal department head should possess all these qualifications, but no one expects, as a practical matter, to find them combined in a single individual. No individual so richly endowed is usually willing to serve as the head of a municipal department anyhow, for he can turn his rare combination of qualities to much more lucrative use in some private enterprise. The only practicable choice, as a rule, is between men who have some of the qualifications but are lacking in others. One possible appointee may be well qualified by education and training; but entirely untried as an organizer and wholly inexperienced in dealing with the public. Another may be a tactful, resourceful, and popular fellow who can be depended upon to keep his co-workers happy but whose professional standing is next to nil. And there will be applications representing all grades of fitness and unfitness in between. Even with the best possible motives a mayor may find the greatest difficulty in making a wise choice.

Can a Better Plan of Selecting These Department Heads be Devised?

Is it not practicable to devise some plan whereby more capable officials can be secured for the higher administrative posts in American municipalities? The superintendent of schools is always an expert in his line; no mere politician without education or experience is appointed to this post. Is it not possible to place such departments as health, public works, parks, and poor relief in charge of officials similarly qualified? Europe, as has been said, affords us no guidance in this direction, for we have tried Europe's method and found it a failure. Civil service enthusiasts contend that heads of departments, like subordinate officials, should be selected by civil service competition, but no American city has as yet given this plan a comprehensive trial and until some municipality is courageous enough to essay the experiment it is impossible to say what its actual merits or defects would be.[1]

Objections to the Choosing of Department Heads by Civil Service Competition.

The proposal to choose the heads of departments by civil service competition does not look altogether promising, however, for the reason that no competitive tests can possibly

[1] In some cities a few department heads are chosen by civil service competition but everywhere the majority of them are exempt.

measure the essential qualities which these officials must possess in order to be successful. It would not be difficult, of course, to determine by competitive examination the relative knowledge, education, and experience of various applicants. But these are not the only qualifications that the head of a municipal department ought to have. He should be temperamentally qualified for the delicate task of getting along smoothly with the public; he must be tactful, an organizer, able to work with others, and capable of winning the confidence of his subordinates. The head of a department is a leader in his field and must have qualities of leadership. These various qualities, however, are not closely related to either knowledge or skill, hence the most expert technician may easily prove a failure at the head of a municipal department by reason of defects in personality. No one has yet devised an objective method of testing for such qualities as initiative, soundness of judgment, power of co-operation, ability to keep a level head in emergencies, capacity to get work out of workers, or, with all due respect to the psychologists, broad intelligence. These things must be judged subjectively by giving someone the function of forming an opinion upon them through his acquaintance with the various applicants or by a study of their previous records. Lieutenants may be picked by competitive tests or intelligence ratings, but commanding generals will never, so far as one can now foresee, be chosen in that way.

The Boston Plan.

During the past fourteen years a plan of non-competitive selection under the supervision of the civil service authorities has been given a trial in Boston. The mayor in all cases takes the initiative in selecting the department heads. Having made his tentative selection, however, he must submit the name of the proposed appointee to the Massachusetts Department of Civil Service, which is a state board of three persons appointed by the governor and hence quite outside the mayor's control. This body, if it finds that the proposed appointee is "qualified by education, training or experience" for the work which he is expected to do, so certifies and the appointment becomes definite. But if it does not find him to be so qualified, the appointment becomes invalid. There is no regular competition and no one can be appointed except on the mayor's nomination. The only function of the civil service board is to veto any appointment which

does not come up to a reasonable standard. In practice the plan has worked moderately well, but hardly more than that. The civil service authorities have not insisted upon a high standard; they have made a good many rejections for obvious unfitness; on the other hand they have not declined to confirm some appointees of very mediocre qualifications. When the requirements for appointment to public office are stated in general terms they do not count for much. The head of the law department should be a lawyer, of course, and city charters so specify; but there is a world of difference among lawyers. The commissioner of public health ought to be a physician; but it is quite possible to be a doctor of medicine and still have the merest smattering of knowledge concerning public health and sanitary problems. Fundamentally the Boston plan is sound, in that it leaves both the initiative and the prime responsibility with the mayor, contenting itself with the provision of a safeguard against any gross abuse of his powers in making appointments. It has raised the minimum standard and has thereby protected the city against the full onset of the spoils system.

The National Civil Service Reform Association's Plan.

Civil service reformers have suggested that whenever a departmental head is to be chosen, the civil service commission should appoint a temporary examining committee of three laymen, all of whom are recognized experts in the same or in some closely-related field. This examining committee would then consider all the applications, applying such tests as it might see fit, and reporting the results to the mayor. The conclusions of the committee would not be based upon relative technical proficiency alone, but would take into account the personal qualifications of the various applicants. As a workable plan this has a good deal to commend it but the objection commonly put forward is that it would break down the mayor's responsibility to the people. When you compel a mayor to work through lieutenants whom he has had no initiative in selecting and whose ideals may differ widely from his own, you cannot pin on him the responsibility when things go wrong. It is for that reason that the President is given a free hand in the selection of his cabinet, the Senate never refusing to confirm any head of a department whom the President may choose, although it has an undoubted right to do so.

The Lack of a Secure Tenure for Heads of Municipal Departments.

The failure to devise a sound plan for selecting department heads is not the only source of waste and incompetence in American cities. The practice of placing them in office for short terms and the habit of removing them on slight pretexts are contributory causes. The insecurity of tenure which attaches to the higher administrative positions has served to make them unattractive, for it is a commonplace that wide-awake men will not take blind-alley jobs if they know it. The headship of a city department, as a rule, leads nowhere. It provides a man with a livelihood for a few years and then leaves him to shift for himself. It might be advisable to have heads of departments appointed for longer terms, but when a newly-elected mayor or a newly-appointed city manager makes up his mind to be rid of an official there is not much to be gained by using the compulsion of the law to prevent his doing so. Without the mayor's support a department-head can rarely accomplish anything. In English cities the higher administrative officials are chosen for a single year and can be dropped by a majority vote of the council at any time. Their only protection is the tradition of fair-dealing, but that is the most effective protection an appointive official can have.

The Internal Organization of Municipal Departments.

The internal organization of a municipal department is a matter of considerable importance. In large cities, and particularly in those departments which have a variety of work to do, a division of labor and responsibility within the department becomes necessary. Departments are therefore broken up into bureaus and these again into divisions and sections when necessary. The department of public works, for example, may divide its work among bureaus of engineering, streets and bridges, water supply, sanitation and sewerage, lighting, parks, and buildings. The bureau of water supply may include two or more divisions, such as construction, maintenance, and finance. The finance division may have an accounting section, a section which deals with the collecting of water bills, and so on. Each bureau has at its head a deputy commissioner, superintendent, or bureau chief; each division or section has a divisional chief or foreman. These officials are now appointed, in many cities, by competitive tests under civil service rules. The general principles which apply to the division of administrative functions among departments should also govern the allocation of work among bureaus and other

subordinate entities. But the details of organization cannot be determined by any general rule. These will vary in different departments. There is, and can be, no standardized plan of internal organization applicable to them all.

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During the past ten years the New York Bureau of Municipal Research has made surveys of the administrative organization in several municipalities, more particularly the *City and County of Denver* (1914); *Columbus* (1916); *San Francisco* (1916); *Richmond, Va.* (1917); *Indianapolis* (1917), and *Jamestown, N. Y.* (1917). These survey-reports, some of which occupy several hundred printed pages, are by all means the best sources of material for the study of contemporary departmental organization in American cities.

## CHAPTER XXIV

## THE CITY'S WORKING FORCE

How Much of the Payroll is Waste?

The cities of the United States are spending for all purposes about two billion dollars per year. Of this huge amount more than half goes for salaries and wages. It is within bounds to say that expenditures amounting to twenty dollars per capita or about eighty dollars per family are devoted by the cities to the payment of their municipal employees. Yet it is a common complaint that the cities do not obtain anything like full value for this payroll expenditure and the complaint has a good deal of justification. It is everywhere conceded that municipal employees display less alacrity and give less value for their wages than do those engaged by private corporations. The only question is how much less. On this point there is a considerable difference of opinion. Some competent observers have figured that city labor is on the average eighty per cent efficient; others believe this percentage to be far too high. The fact is that the efficiency of city officials and employees is not the same in all branches of work. It is highest in the school department and lowest in those forms of public service where large amounts of unskilled labor are employed,—in the street cleaning department, for example. Striking an average, it would probably be within bounds to say that the American city does not get more than sixty cents on the dollar for its payroll expenditures.

City Employees Are Not All So Indolent As They Are Pictured.

The public imagination has been inclined to exaggerate the slothfulness and incompetence of those who work for the city. Having no reliable data upon which to base a comparison between public and private employments, the average citizen is guided to conclusions by what he happens to see. The man of business, stepping briskly along the street on his way to work, sees a decrepit old fellow languidly pushing a refuse-cart along the pavement, picking up a scrap of paper here and there, and covering the ground at the rate of half a block an hour. He assumes that this is a typical illustration of what goes on in all branches

of the public service—a dollar's worth of work for four dollars a day. He does not stop to reflect on the fact that the oldest and least capable among city employees are usually assigned to the push-carts as a humanitarian measure. When an employee has grown old in the service, and is no longer physically able to do an eight-hour stretch with pick or shovel, the city tries to find an easy job for him. He would be pensioned if the city had a pension system; but most cities have none, hence the payroll of the street cleaning department is made to serve as a pension list, and a rather expensive one it is. Because these superannuated and worn-out employees are from the nature of their work very much in the public eye it is natural that they should be singled out for adverse comment, but it is obviously unfair to judge the city's entire working force by this or any other single illustration. As well might one try to reach a fair conclusion as to the labor efficiency of railroad employees by watching the one-armed man who waves his red flag at a grade crossing.

**The Size of the City's Labor Force.**

Yet with all proper allowance for erroneous or exaggerated popular impressions it cannot be denied that the problem of obtaining a fair return for its labor expenditures is one of the most difficult tasks confronting the American city today. The city payroll is everywhere growing like Jonah's gourd, with no likelihood of any let-up. In New York City the municipal employees,—including policemen, firemen, school teachers, the officials and employees of the street, water, sewerage, parks, health and other departments, the clerks, stenographers, messengers, janitors, charwomen, and all the rest—together they constitute an army a hundred thousand strong. In smaller cities the proportion is nearly as large, and it is everywhere increasing rapidly. It has doubled within the last twenty or thirty years. The larger it grows the more difficult it is to maintain proper supervision, to enforce discipline, to prevent soldiering, and to get a fair day's work for a fair day's pay. Private enterprises usually suffer no loss in labor efficiency as their volume of business increases; but cities almost always do.

**Public and Private Labor Efficiency Contrasted.**

This is because there are some fundamental differences between public and private employment. These differences are so patent that there would be no need to recapitulate them were it not that municipal employees and their political allies are continually

reasoning from analogy and arguing as though the two forms of employment were in all essentials alike. Private employees are permitted to unionize, they say, why not public employees also? The analogy, of course, is defective. Workers in the employ of private corporations have no direct share in controlling the management.[1] The city employees, on the other hand, are voters; they have relatives and friends who are also voters. All of them are dependable voters; they come close to a hundred per cent attendance at primaries and elections. The direct and indirect political strength of the public employees in American cities is nowhere less than ten per cent and is probably twice as much in some communities. Here is a solid political phalanx which the mayor and council must take into their reckonings. These elective officials, who stand in the position of employers, are in part dependent for their continuance in office upon the good will and favor of their employees. To retain the political support of the city employees they will often sacrifice what they know to be the best interests of the municipality. The city employees are a unit in protecting their own interests; the rest of the voters are not. They are united in their demands and resentful when these demands are denied. Because of this unity and vindictiveness the mayors and councilmen are inclined to overestimate the political influence of the municipal employees, considerable as it is, and to be unduly responsive to their organized pressure. At any rate the public employees are amply represented in determining the policy of the management; if anything they are over-represented, whereas only in rare instances are private employees accorded any representation at all. That is one essential difference between municipal and private employment.

1. Public Employment and Politics.

There is another difference. In every private business enterprise, the management is subjected to the pressure of competition and hence is absolutely compelled to maintain a certain standard of labor efficiency. If it fails to do this the result will quickly show itself in diminished earning-power. But the city authorities are subject to no such competitive inspiration. They set their own standards, and there is no way in which anyone can

2. The Lack of Objective or Competitive Standards in Public Employment.

[1] There are a few exceptions, of course, in industries where shop councils and other agencies of industrial democracy have been established, but the statement holds true of American industry in general.

determine whether these standards are high or low. For no matter how low they may be, a city is not driven out of business by its competitors. If its streets are ill-kept and badly lighted, its public buildings shabby, its sanitation defective, its death rate high, and its police corrupt, the officials will find some plausible excuses for each and all of these things, and what is more a considerable portion of the people will accept the excuses. Or if, by any chance, no plausible explanations are at hand, they can assure the public that, bad as the municipal administration may seem to be, it would be worse under the management of the other political party. The manager of a factory, when he fails to earn the dividend, cannot pacify his stockholders by dilating upon the iniquity of his competitors or by praising the enlightened, progressive, humane, public-spirited, patriotic, democratic, and truly "American" character of his own establishment. But public officials resort to such subterfuges, regularly and successfully. The pocket-nerve controls the muscles of business. The body politic may be an organism, as some students of political theory have assured us; but if so it lacks this nerve in its anatomical structure.

**The Fault Does Not Lie With the Heads of Departments.**

No matter how capable or diligent the head of a city department may be he cannot obtain full value for departmental expenditures so long as his associates or his subordinates are unable or unwilling to give him full support and co-operation. There are so many details to be handled that he must rely to some extent upon the judgment and counsel of his bureau chiefs, each of whom is presumed to have a special familiarity with some branch of the department's work. They, in turn, must devolve important duties and decisions upon inspectors and foremen. In the public works department, for example, the plans and specifications for street construction are necessarily prepared by subordinates and submitted to the head of the department for his approval. The latter cannot check up every item and make certain that there are no crevices in which a slippery contractor may eventually find refuge. If a department head should try to scrutinize such details he would have no time for anything else. Then, when the contract has been awarded, and the job is in progress, he must depend upon his subordinates for rigorous inspection to ensure that the contractor lives up to the specifications. If these inspectors happen

to be corrupt or incompetent the city will find itself paying good money for scamped work, no matter how honest the head of the department may be. It is not enough to make sure of skill and integrity at the departmental center. Public money will continue to be wasted so long as the municipal service is moth-eaten at the edges.

How City Employees Are Recruited: European and American Methods Compared.

Low standards of labor efficiency in American cities are a logical outcome of the methods by which their working personnel is recruited. In Europe the officials and employees of the municipality are selected from among applicants who possess qualifications fixed by law or by tradition. These qualifications cannot be satisfied by men whose only achievements have been gained in politics. As between applicants whose qualifications by education and experience are approximately equal the choice may be dictated by party considerations, but nowhere in Europe does one encounter the doctrine that political influence comes first and personal qualifications second. In French and German cities the laws impose a few general limitations upon the freedom with which officials and employees may be chosen; in English cities there are almost no legal restrictions at all.[1] In the United States, by way of sharp contrast, many cities have constructed an elaborate system of civil service regulations which narrow the freedom of the appointing authorities to the point to where it has almost disappeared so far as the selection of subordinate officials is concerned. These regulations provide that appointments shall be based upon merit alone and that no official may be removed without proper cause. They are backed by the power of legislatures, courts, and commissions. Yet the fact remains that personal merit continues to count for more in European cities than in those of America. *Quid leges sine moribus?*

Why the European Plan Failed in America.

There was a time when the recruiting methods used in both continents were alike. The European plan of according the mayor or the city council a free hand in the selection of municipal employees was given a full and fair trial in the United States. But it broke down because the party organizations succeeded in confiscating the appointing power for their own use and benefit. The appointing authorities in American cities were the creatures

[1] London is an exception; its employees are chosen under a civil service system.

of these organizations. They were nominated by party conventions, elected by the efforts of the party, and thus placed under a moral obligation to show gratitude for the party's assistance. The most obvious way of displaying this appreciation was to distribute the spoils of office among the victors, thereby placing upon the municipal treasury the cost of keeping the party organization intact. But this vicious circle of party service and public reward, commonly known as the spoils system, would never have been able to complete its course in American cities had it not been for the simultaneous spread of the doctrine that offices ought to be "passed around" and not held for long periods by the same favored individuals. This idea of rotation in office, altogether foreign to European ideals of government, captured the popular imagination in America where it was thought to square with the principles of true democracy. Its general acceptance in the field of municipal government meant that all administrative posts, no matter how capably filled, should be vacated at frequent intervals. Rotation is what gave the spoilsmen their opportunity.

**The Philosophy of the Spoils System.**

In the cities of the United States this ogre of politics ruled for more than half a century, supreme and unashamed. It was accepted by public opinion as a concomitant of democracy. Europe, with its organized bureaucracy, its long terms of office, and security of tenure, was looked upon as reactionary, monarchic, benighted. But the spoils system never rested upon a sound conception of democracy. It assumed that all men had been created equal in their ability to perform the difficult and varied duties which arise in connection with an administrative office. And if all American citizens were equally capable of governing one another, there seemed to be no good reason why everyone should not have his turn at it. Democratic government, moreover, was by common consent regarded as necessitating the maintenance of political parties. Parties, being essential, had to be nourished and sustained. If no other convenient way of providing this nutrition were at hand, then the public treasury should furnish it. The philosophy of the spoils system was not always expressed in this bald form, but stripped of its sophistry this was the politician's logic during the mid-decades of the nineteenth century.

The spoils system, during its long hegemony, demoralized the

public service everywhere. It filled the administrative offices of the cities with incompetence; it forced such frequent changes in office that when a capable man received an appointment he no sooner learned the duties of his position than he was removed to make room for someone else. It debased the morale of the city's working force. The spoils system spread from national to state government, and from the states to the cities. Mayors and aldermen found it necessary to spend a large portion of their time in listening to the pleas of office-seekers. Not everyone who sought office could be appointed, of course, and refusals always caused a great deal of bitterness. It was sometimes said, and with a good deal of truth, that every time a mayor chose an appointee he made one ingrate and ten enemies. So even the politicians began to realize that patronage had its drawbacks. There were murmurings against the spoils system from the close of the Civil War onward, but the seriousness of the situation throughout the country did not strongly impress itself upon the public mind until after the assassination of President Garfield. Then public opinion fired into flame. The first national civil service law was enacted in 1883; and when Grover Cleveland, a short time thereafter, spoke of public office as a "public trust" the sentiment was generally approved.

**Effects of the Spoils System Upon the Public Service.**

**The Beginnings of Civil Service Reform.**

It is not to be imagined, however, that the victory of the merit system was either easy or complete. The spoils system being well entrenched, its grip was not easily loosened. The merit system made its way into the government of the states and cities by inches at a time. Although it is now forty years since the first civil service law was passed, the spoils system still dominates the selection of administrative officials and employees in more than half the states and in several hundred cities of the country. In practically all the big cities, however, civil service rules now cover a large portion of the appointive offices other than the headships of departments and divisions.[1] The system

**Spread of the Merit System.**

[1] Among the 25 cities having populations of over 250,000 there is only one which does not have a civil service commission (Indianapolis). Among the 68 cities having a population of 100,000 or more there are civil service commissions in all but fourteen. Among the smaller cities, however, the showing is not nearly so good. Only 330 of the 1,467 American municipalities having populations of more than 5000 are operating their local governments under some sort of civil service control. See the *Report of the* [*National Municipal League's*] *Committee on Civil Service* (1923), p. 4, *footnote.*

of treating public office as "patronage" is slowly but surely losing ground although its tenacity is marvelous, as civil service reformers have discovered. From present indications all positions in the city's administrative service, except the very highest, will be under civil service rules within the next decade or two.

**Twofold Purpose of the Merit System.**

The purpose of the merit system is twofold. It aims to prevent the appointment of persons who are clearly unqualified and whose selection represents the liquidation of political indebtedness. But a merely negative purpose is not a sufficient foundation upon which to build an improved public service. Hence the second aim of the merit system is to provide a means whereby qualified applicants may be recruited and certified to the appointing authority. That is the constructive service which it undertakes to render.

**How Positions Are Filled Under Civil Service Rules.**

In some features the civil service or merit system differs from city to city, but its general operations are about as follows: Whenever a classified position is to be filled, the mayor or other appointing officer calls upon the civil service commission to send him an "eligible list," or a list of persons qualified for appointment.[1] If the commission has recently held competitions for positions of the same nature it may have an eligible list at hand. For example, if the position is that of policeman, fireman, clerk, or stenographer, there is usually no delay in preparing an eligible list because examinations for these posts are held frequently. But if some unusual position is to be filled, such as that of bacteriologist in the water department or chief cataloguer in the public library, it is usually necessary to hold a special competition.[2] Public announcement is made; applications are received; special examiners are appointed when necessary; examination papers are made out; the tests are taken by the various applicants, and the results are figured. Candidates who have

[1] By a "classified position" is meant any office to which the civil service laws or regulations apply.

[2] An eligible list usually contains three or more names arranged in order of merit as indicated by the civil service tests. Civil service commissions do not always exercise due care in keeping their lists up to date, and sometimes send lists containing the names of persons who are no longer eligible for appointment. In one instance the civil service commission in a certain Western city certified three persons as eligible. The appointing officer found that the first was dead, the second was in an insane asylum, while the third was no longer a resident of the city.

made the best showing are then certified, and the appointment must be made from among them. Ordinarily the appointing officer may select, at his own discretion, anyone on the eligible list.

Nature of the Civil Service Tests.

It should not be assumed from this brief description, however, that civil service competitions always take the form of written examinations like those given in school or college. They are tests or trials rather than examinations in the narrow sense, and of a distinctly practical nature. The tests are closely related to the work which the applicants will have to do in case of appointment. Candidates for positions as stenographers are required to receive dictation and transcribe it. Rapidity, accuracy, and neatness are taken into account in determining the order of merit. Civil service tests for policemen assume the form of physical examinations, questions on elementary law, on local geography, and on the duties of a policeman. The examiners find out what qualifications a position demands and then try to devise a set of tests which will determine these qualifications. In the case of technical positions it is the practice to enlist the aid of experts in framing the questions and in grading the answers. The civil service commission, it should be made clear, does not make the appointments, but merely certifies the names of those who are eligible. In many cities it is provided that no one who is not a bona fide resident may be certified as eligible.

Civil Service Boards: The Massachusetts Plan.

For the honest and impartial administration of the merit system it is essential that the civil service commission shall be so organized as to be immune from direct political pressure. This immunity is not easy to ensure, but various methods of securing it have been given a trial. In Massachusetts there is one civil service commission for the entire state.[1] This state board includes a Commissioner of Civil Service and two associates all of whom are appointed by the governor. No Massachusetts city has its own municipal civil service commission; when any post within the classified service is to be filled the city authorities call upon the state authorities to certify the necessary names. The palpable objection to the Massachusetts plan is that it infringes the principle of municipal home rule as this principle is commonly applied throughout a large portion

[1] This plan is also used in New Jersey, but with some modifications.

Does it Infringe the Principle of Municipal Home Rule?

of the United States. But in essence it is nothing more than the extension of a practice which has been commonly followed (and is not regarded as an infringement upon local autonomy) by states which lay great stress upon the sacred privilege of municipal self-determination. Examinations for teacher's certificates are in many of these states conducted by state boards of education, and no one who is not so certified can be appointed to any teaching position in a city school. If the certification of teachers can properly be made a state function, why not the certification of other municipal officials and employees such as playground supervisors, probation officers, library assistants, for example? The question, after all, is one of expediency, not of principle. In Massachusetts the plan of state examination has had the advantage of removing the civil service system from the direct control and influence of the local politicians; but it is not at all certain that it would work out this way in other jurisdictions.

The Illinois Plan.

In the cities of Illinois, and in those of most other states which make provision for civil service rules in their cities, a very different plan of administering the merit system is in use. The mayor of each city (or the commission, where there is one) appoints a civil service board, usually of three members. Each member ordinarily serves for three or six years, and one member retires annually or biennially. Sometimes it is provided that both political parties shall be represented on the board. Under certain conditions the mayor may also remove members of the civil service board or commission. These municipal commissions function within their respective cities; they conduct the local competitions and are not subject to the supervision of any state authority. This method of doing things is more considerate of home-rule sensibilities; but it is unsound in principle and has not been found satisfactory in practice. The civil service commission is assumed to act as a check upon the mayor. But how can it properly fulfil this function when it is virtually under his control? It is in accordance with an elementary and universal trait of human nature that civil service commissioners, appointed by the mayor, will try to meet his desires by straining both the letter and spirit of the law as far as they will go. Persons not properly qualified will be slipped into classified positions when the mayor insists upon it. This

can be done by holding "non-competitive" examinations, or by authorizing "temporary" appointments without any examinations at all, or by otherwise stretching the commission's power to make exceptions in special cases. In one or another of these ways patronage will be allowed to masquerade in the garb of merit. A recent investigation of the subject has shown that nearly all the strictly municipal commissions are honeycombed with politics.[1]

The Philadelphia Plan.

Some cities try to keep the civil service commission out of the mayor's reach, while preserving the principle of home rule, by vesting the appointment of the commissioners in the hands of the city council. This is the arrangement provided by the new charter of Philadelphia and there is a good deal to be said in its favor.[2] The Philadelphia civil service commission consists of three members, chosen for four years by a majority vote of the city council. They are not removable by the mayor nor are they in any direct way subject to his control. Unfortunately, however, American municipal experience does not warrant the expectation that civil service commissioners chosen by city councils will consistently reflect a high standard of integrity or non-partisanship. As an appointing authority the American city council has almost everywhere proved a failure. There are some exceptions, of course, but they are not very numerous. The average councilman, especially if he be a ward or district representative, is not interested in civil service reform, or in reform of any other sort. He is far more concerned, as a rule, about getting jobs for clamorous supporters in his own district. The civil service commission which insists upon a strict adherence to merit, paying no heed to the hints, suggestions, recommendations, and protests of councilmen will sooner or later find itself replaced by one whose members are more amenable. No one who has observed the traditional habits of American city councils can fail to be driven to that conclusion.

The New York Plan.

There is still another method of administering the civil service laws in cities, namely the New York plan which attempts

[1] Governmental Research Conference, Report of the Committee on Civil Service, published under the title, *The Character and Functioning of Municipal Civil Service Commissions in the United States* (1922), especially pp. 23-35.

[2] The same plan is followed in Denver. In St. Paul the city comptroller is *ex-officio* civil service commissioner.

to combine local management with central supervision.[1] Each of the sixty cities of the Empire State has its own civil service board appointed by the mayor. This local body conducts the civil service tests and prepares the eligible lists. But its work is under the supervision of a state civil service commission appointed by the governor. The latter prescribes the general rules; it may investigate the work of any local commission, and may even remove the latter from office. The value of this plan is proportioned, of course, to the thoroughness and impartiality with which the state commission performs its supervisory duties, and in New York this has left a good deal to be desired. Competent supervision involves about as much work as direct administration. The latter, as it exists in Massachusetts, is more economical in the long run and in its actual workings has proved itself to be more satisfactory from every point of view.

**What the Merit System Has Accomplished.**

The merit system of selecting city officials and employees, despite the lack of sense or sympathy with which it is too often administered, has unquestionably demonstrated itself to be a vast improvement over the traditional method of distributing responsible positions among party workers. Where its rules have been fairly applied it has closed the door to one of the most iniquitous of all political practices, that of treating public office as a thing to be bargained for like merchandise, its price determined by the law of supply and demand. It has substituted fitness for favoritism and open competition for political manipulation. No one nowadays has the hardihood to assert that all men are endowed with an equal capacity to perform the technical duties which arise in connection with the city's accounting, sanitary, health, and constructional work. The marvel is that such doctrine should ever have gained currency. The issue today is a purely practical one: admitting that the appointee ought to have special qualifications, how can we best make sure that no one deficient in these qualifications shall be selected? The system of civil service competition, with all its shortcomings, affords a reasonable degree of assurance on this point. If anyone has honest doubts on this score he can speedily resolve them by comparing the administrative personnel of those cities which

[1] The same plan is used in the cities of Ohio. The experience there has been similar to that of New York.

have fairly applied the merit system with that of other cities which have not.

The progress of the merit system would doubtless have been more rapid were it not for the obstacles that it has encountered through no fault of its own. It was put on the market under an ill-chosen name: there are few slogans in the English language less inspiring than "civil service reform." It has had the misfortune to be imposed upon unwilling officials. Its aim is to make mayors and other appointing authorities do what most of them would not do if they could avoid it. It is maintained by the strength of statutes and the decrees of courts, not by the power of public sentiment or the influence of tradition. The apathy of public sentiment, when raids upon the merit system are in progress, has been illustrated by the ease with which amendments to the civil service laws have been enacted for the special benefit of men who have been in the military or naval service. In many instances these "veterans' preference" laws have virtually negatived the merit principle and have compelled the appointment of men who would not have been able to top the list by reason of their civilian attainments. To the proposition that, other things being equal or nearly equal, the former service man should have preference there is no serious objection; but the preference often goes far beyond this. No system ostensibly based upon the merit principle can achieve satisfactory results if public sentiment is not ready to afford the principle a reasonable degree of protection.

The Obstacles That It Has Encountered:

1. The Hostility of Public Officials and the Apathy of the Public.

But if the public is somewhat indifferent to the strict application of the merit principle, the politicians are not. Failing to prevent the enactment of civil service laws, they endeavor to control the boards and commissions which are entrusted with the administration of these laws. To this end they bring pressure to bear upon governors or mayors and often secure the appointment of civil service commissioners who are not in full sympathy with the merit system. A recent investigation disclosed that among sixty-three members of municipal civil service commissioners in twenty-seven American cities, only one-third were men with any considerable experience as employers.[1] Political considerations have weighed more heavily than personal

2. The Pressure of Politics on the Civil Service Authorities.

[1] Governmental Research Conference, *Report of the Committee on Civil Service* (1922), pp. 23-24.

fitness or previous experience in business or in government. For this reason the merit system has not always had a fair chance. In some cities it has been administered in a fair and sympathetic spirit; but in many others its destinies have been committed to the care of lukewarm or even hostile hands.[1]

3. The Inadequacy of the Tools.

Civil service commissions have had to work with the tools at hand. Written and oral examinations, supplemented by general information gleaned in other ways, have been their chief reliance. All sorts of tests have been tried, written tests, oral tests, physical tests, non-assembled tests, character tests, intelligence tests, experience tests, and so termed "practical" tests.[2] Some commissions require that applicants shall have had a definite amount of preliminary training or experience before being admitted to the examinations; others make the competition a free-for-all to which even those who have no chance of success are admitted. In determining the results some give weight to the previous training and experience of the candidates; others depend solely upon the examination grades. In any case the civil service system is handicapped by the unreliability of the tools with which it has to work. Formal examinations and tests, no matter what their character, cannot be relied upon to sift the best from the second-best. There are no known tests by means of which one can unerringly determine, from among a roomful of candidates, the two or three who rank highest in firmness, initiative, honesty, tact, leadership, common sense, resourcefulness, personality and general intelligence. Yet these are the qualities which are greatly to be desired in public officials. No amount of technical proficiency will spell success in either public or private employment if a man be deficient in all of them. Those who have had much to do with college examinations can well appreciate the necessary limitations of any system based upon questions and answers. Examinations have their only *raison d'être* in the

[1] Members of the civil service commissions, moreover, are changed so frequently that they do not usually manage to obtain any real familiarity with their duties. *Ibid.*, pp. 29-30. The National Municipal League's Committee on Civil Service has suggested that the merit system, or system of municipal personnel administration, should be placed in charge of a single commissioner with an indeterminate tenure, himself selected as a result of a competitive examination given by a special board. See the committee's *Report* (1923), p. 20.

[2] See the explanation of these various tests given in L. F. Fuld, *Civil Service Administration* (New York, 1921), pp. 7-14.

fact that thus far we have found nothing better. No matter how intelligently they are planned, or how "practical" they may be, examinations rarely test more than one thing—the ability of candidates to pass them. And this may or may not be related to their ability to do other things.

Is the Merit System Undemocratic?

In labor circles there is a feeling that the merit system is "undemocratic" in that it affords an advantage to those applicants who have had a high school or college education. This objection is especially urged in the case of clerical positions. Those whom straitened circumstances have compelled to leave school and go to work at an early age often find the civil service requirements too difficult. This means that they are debarred from public employment except in unskilled positions. It is quite true, of course, that the candidate with a good education has a decisive advantage in the way of being able to write legibly and correctly, to make the most of what he knows, and to keep his wits about him at an examination. Other things being equal, this will turn the scale in his favor and he will get the appointment. But why should it not do so? Education, if it is worth the enormous sums we are spending on it, ought to give educated men and women an advantage over the uneducated. Surely a system of appointment is not to be stigmatized as "undemocratic" because it denies to illiteracy and ignorance an equal value with education and enlightenment? If so, it is high time to revise our definition of democracy.

Does it Promote Mediocrity in the Public Service?

The merit system, one often hears it said, is a promoter of mediocrity in the public service. It shuts out the worst but fails to get the best. It has filled the municipal service with appointees who have just enough intelligence to pass the tests and no more. These men and women, if they had more ambition and ability, would be in some form of private business. As it is, they fall back upon the public service as offering the most pay for the least effort. By dint of coaching and repeated trials they eventually manage to pass the civil service tests and are appointed.[1] Thereafter their work is done with one eye on

[1] On occasions there has been crookedness in the examinations, some candidates or their friends managing to get hold of the papers in advance. Often, again, when favored individuals do not manage to make a good showing in open competition, the civil service authorities have been persuaded to sanction "temporary" or "provisional" appointments, and in this way many incompetents have found places on the municipal payroll. In 1920 twenty-

the clock, the pinnacle of their idealism being to keep a little above the line where dismissal for gross incompetence or conspicuous indolence would be justified.

Some Reasons Why the Merit System Does Not Result in a High Grade of Appointments:

This indictment, so often framed by public officials, is much exaggerated, yet it is not altogether without foundation. The civil service competitions are not patronized by the most ambitious young men and women of the community. To them public employment does not promise an alluring career. Consequently the public service must draw, for the most part, from among those who find difficulty in measuring up to the standards of private employment. For this situation the merit system is not to blame, although it is a fair criticism upon civil service

1. Lack of a Well-Organized Recruiting System.

commissions that they have concentrated their attention too exclusively upon the work of examining candidates and have laid too little emphasis upon the importance of recruiting a better grade of applicants. The root of the trouble may be found in the failure of the city to make its service attractive. This it could do if promotions as well as appointments were made to depend upon merit. Meanwhile, and until this is done, the work of recruiting better material for the public service ought to have more attention. There has been some contact with trade schools, schools which give stenographic and clerical training, and with other institutions which are natural recruiting grounds. But this phase of the work ought to be developed to a much greater extent.

2. Incentives to Good Work Are Not Provided.

The greatest obstacle to the successful working of the merit system, as indicated a moment ago, is the existing system of promotion. No method of making appointments will secure the best results so long as it is accompanied by a plan of promotions based upon political influence or personal favoritism. This is still the situation in most American cities. Increases in pay and advancement in rank are not usually determined by examinations, by efficiency records, or by other objective tests, hence the incentive to zealous effort is lacking. This is the main reason why the atmosphere at the city hall is permeated

six per cent of the appointments made to the classified service of New York City were of a temporary or provisional character; in Philadelphia, 42 per cent. In Milwaukee, during 1921, no fewer than 72 per cent of the appointments were in the same category, and in St. Paul the ratio was 58 per cent. See *Report of the [National Municipal League's] Committee on Civil Service* (1923), p. 7.

with inertia. Promotions, like appointments, should be based upon merit and upon merit alone. Yet it is not easy to devise a just promotional system based upon merit. In promotions the personal equation counts for even more than in appointments. Some cities maintain efficiency records which take into account the quality and quantity of work performed, punctuality, general conduct, errors and omissions, as well as the personal opinions of foremen, bureau chiefs and heads of departments. Ratings based upon these records are used in determining who shall be promoted and when. On the whole, however, this plan of promotion based upon efficiency records does not seem to be working well.[1]

The Science of Personnel Administration.

The time has probably come for American cities to accept some lessons in personnel administration from the field of private employment. Every large industry, if it is well-organized, now maintains an employment or personnel department charged with the function of securing employees of the right type and seeing that they are not improperly discharged. These employment departments have made a great advance in their technique during the past ten years; their work has succeeded in reducing the labor turn-over in all large industries. It has been suggested, therefore, that cities should reconstruct their civil service departments along similar lines, particularly by insisting that the single commissioner at the head of this department shall have a "knowledge of the science of modern employment administration."[2] It is further proposed that this employment commissioner should take over, as in the case of private enterprises, some responsibility for the health, the working conditions, the recreation, and the general welfare of the municipal employees.[3]

[1] "I have gone afield and studied efficiency records in Chicago, New York, and Washington. Nowhere are they a success." Charles W. Reed (member of the California Civil Service Commission) in *Transactions of the Commonwealth Club of California* (December, 1921), p. 323. Not all who have studied the system in operation are so pessimistic as this, but in general it can fairly be said that the plan of promotion by efficiency records is not giving a high degree of satisfaction either to the appointing authorities or to the public employees.

[2] *Report of the* [*National Municipal League's*] *Committee on Civil Service* (1923), p. 19.

[3] These interesting proposals are worked out, with some elaboration, in *Ibid.*, pp. 12-28; also in the report on *The Character and Functioning of Municipal Civil Service Commissions*, issued by the Governmental Research Conference (1922). Both reports are worth study.

The merit system is concerned not only with appointments and promotions but with dismissals. The usual requirement is that no official or employee, appointed under civil service rules, may be dismissed except on specific charges made in writing, and on which charges he is entitled to a hearing. In some cities this hearing takes place before the mayor or the head of the department who makes the dismissal; in others it is held by the civil service commission. In the latter case the commission is sometimes authorized to decide whether the charges have been sustained, and, if it finds that they are not, to reinstate the employee. The mere requirement that charges be filed and supported at a public hearing may not seem to afford much protection against unjust dismissal, but in practice it does provide a considerable measure of security. Mayors and heads of departments will put up with a good deal rather than comply with this procedure. The dismissed official is sure to strike back by making counter-charges and attacking the reputation of his former superiors. He will have a sharp lawyer for his counsel at the hearing; witnesses will be summoned, and before the matter is closed some high explosives may be touched off. Every city employee who keeps his eyes open and his ears alert is bound to accumulate truths and half-truths which make spicy reading when paraded in the newspapers. There are skeletons in every city hall closet. No mayor desires to run the risk of providing his political enemies with ammunition by permitting these public hearings to be held frequently during the course of his administration. For this reason it is sometimes hinted that incompetent and intractable city employees keep their positions by reason of what they know, not by reason of what they do.

**Removal Hearings.**

**Standardizing Pay and Positions.**

Much dissatisfaction among municipal employees is caused by the haphazard methods of relating work and pay. Some city labor is underpaid; more of it is overpaid. As a rule the underpayment is at the top and the overpayment is at the bottom. Heads of departments, chief of bureaus and other officials who have important duties to perform are usually paid too little. Capable men cannot be had, in many cases, for the stipends given. The lower ranks in the city's working force, on the other hand, receive a scale of wages which is usually well above that paid by private employers. In most cities there is no standard rate for each designated form of service. The ordi-

nary laborers in all the departments usually get a fixed rate of four or five dollars per day, but for those higher up on the pay-roll there are frequently no standard rates at all.[1] What a city official or employee receives in salary or wages at any given time depends upon a number of things among which political influence, personal favoritism, legislative action, good luck, length of experience, and individual competence figure in varying degrees. American cities, taking them as a whole, have had no comprehensive or consistent policy in the matter of salaries and wages. Although civil service commissions are often empowered to classify positions it frequently happens that officials or employees who do exactly the same work, and who have been in the service the same length of time, receive widely different rates of compensation. This is an injustice which rankles; it tends to destroy the morale of public employment.

Plans of Standardization.

Various plans of employment-and-salary standardization have been worked out, and a few cities have put them into operation. Chicago was the first, about a dozen years ago. All the employees of that city were classified according to the nature of their work and the length of their service, a standard rate of compensation being fixed for each.[2] Other communities followed Chicago's example. But the general increases in the cost of living which accompanied the war threw schedules and standards out of joint. Cities felt that substantial increases in the pay of employees were warranted by the higher living costs and it seemed expedient to deal more generously with employees in the lower ranks than with those higher up. Men with families on their hands were deemed to be deserving of special consideration irrespective of their work or experience ratings. Remuneration cannot be easily standardized so long as the purchasing power of the dollar keeps flitting up and down. It is not enough, in any event, to adopt a plan of salary standardization and leave it to take care of itself. Evasions will multiply unless watchfulness is maintained. Favored employees will be classi-

[1] In the police, fire, and school departments a minimum and maximum salary per annum are usually fixed.

[2] Standardization of salaries has also been attempted in New York City, Pittsburgh, Cleveland, Seattle, Milwaukee and some other cities. A full discussion may be found in W. C. Beyer, *Employment Standardization in the Public Service* issued as a supplement to the *National Municipal Review*, June, 1920.

fied as foremen, inspectors, or timekeepers when the nature of the work does not warrant such classification. Clerks who do the most routine sort of work (who merely make out the monthly water bills for example) will be rated as bookkeepers or accountants in order that they may obtain more than the standard rate of remuneration established for ordinary clerical service. To protect the city against such abuses it is essential not only that the civil service authorities be empowered to investigate and to determine the proper classification of employees but that they also examine the payrolls. Discretion in this matter cannot be safely left to the heads of departments.

Organizations of City Employees (*a*) In Europe.

It is the habit of economists to tell us that the rates of remuneration, in all forms of employment, depend fundamentally upon the law of supply and demand. But insofar as workers become thoroughly organized they are less susceptible to the immediate influence of this law. Municipal employees are now well organized, under some plan or another, in all the larger cities on both sides of the Atlantic. In France the employees of each city are enrolled in a single association or union without respect to their departmental affiliations. These local associations are federated into a national organization covering all the municipal employees of the country. The employees of British municipalities are enrolled in one National Association of Local Government Officers which includes all appointive officials and other municipal workers who are not otherwise organized. Certain classes of officials, chiefly the professional officers such as engineers, accountants and sanitary inspectors, have their own organizations and do not belong to the National Association. The latter, however, is a large and powerful body.

(*b*) In the United States.

In the cities of the United States a plan different from those of France and Great Britain has been pursued. The higher officials (police chiefs, park superintendents, engineers, etc.) have their own national organizations but these are in no way affiliated. The subordinate employees are organized by departments and they usually (though not always) affiliate with kindred organizations of workers in private employment. Thus the teamsters in the street department form a Teamsters Union which links up with the similar bodies drawn from the service of private contractors. These organizations of municipal workers have in many cases obtained charters from the American Federation of

Labor and are under its jurisdiction. Questions concerning the right of municipal employees to organize, to bargain collectively, to affiliate with national organizations, and to enforce their demands by means of a strike have been much discussed in all countries during recent years. The right of these employees to organize for the promotion of their own interests is generally conceded. No serious objection has been urged against the formation of local organizations under local control. But there is no such consensus of opinion concerning the right of all organized municipal employees to affiliate with national labor bodies and thereby subject themselves to a measure of outside control. Even wider is the disagreement as to whether such organizations of municipal employees should possess the right to strike as a means of enforcing their own demands or as a method of showing their sympathy with the demands of some affiliated organization.

The Right to Strike.

An intelligent answer to this question seems to require that a preliminary distinction be made among the various classes of municipal employees. Some of them are engaged in work which can be interrupted, for a time at least, without grave menace to the public safety. The cessation of work in the public parks or on street construction, may result in monetary loss to the city and inconvenience to the citizens. But the degree of loss or inconvenience is not greater than when public utilities under private operation (the telephone, lighting or street railway services) are tied up by a strike of the workers. It would be a doctrine hard to maintain that while motormen and conductors may resort to a strike for the enforcement of their demands, the employees in the parks and paving departments may not.

The Essential City Departments.

But there are certain branches of municipal administration in which the interruption of service involves not only monetary loss and public inconvenience but exposes the whole community to serious danger. This is the case when a police or fire department goes on strike, leaving the city a prey to yeggmen and incendiaries. Under such conditions the municipality is left powerless to fulfil the most elemental functions for which it was created, the protection of life and property. The same is true of the public health and hospital services. The right of doctors and nurses to walk out of the city hospital, leaving the sick to suffer unattended, can hardly be called a self-evident right. It is not a right that inheres in humanity. Even amid the inhumanities of

war the combatants assert no such right in relation to their enemies. In any event the proposition that the safety of the whole people stands above the economic interests of any class, whether of workers or employers, is not open to debate, argument, or arbitration. A government cannot debate or arbitrate its own right to perform the functions for which it was created.

The Question of Pensions: European and American Practice Compared.

Another difficult question concerns the obligations of the city to its employees when they have grown old in the service or have become incapacitated. On this point America has much to learn from Europe. In Germany, France and England it is an established practice to provide superannuation allowances or pensions for all employees who have served a designated number of years in any branch of the public employ. In some cases the system is contributory, that is, a small sum is deducted from the salary of every employee during each year of active service; more often it is non-contributory, the city paying the entire cost. In the United States, on the other hand, very few cities have any pension arrangements at all, and even in such municipalities they often cover certain classes of officials and employees only, more particularly school teachers, policemen, and firemen. In the other departments it is sometimes possible to obtain by special legislative enactment the grant of a pension in individual cases where the service has been notably meritorious or where the aged employee's friends can bring sufficient political influence to bear; but this leads inevitably to discrimination and injustice.

The Need for a Scientific Handling of This Problem.

Comprehensive pension systems, covering all classes of city employees and resting upon a basis which is equitable both to the employee and the taxpayer, are among the most urgent needs of the American city today. The existing arrangements are not only unfair but wasteful. Aged employees may be summarily dismissed and left to shift for themselves, thus becoming a burden on their relatives or recipients of public charity. No city can pursue this method as a settled policy; the humanitarian sentiment of the people will not tolerate it. Mayors and councilmen cannot justify it before their constituents. As an alternative the employees may be left on the payroll despite their infirmities, being given the lightest sort of work that is available—as doorkeepers, messengers, street sweepers and the like.[1]

[1] In some cases the work to which they are assigned is of the most perfunctory sort. One example will suffice. Some years ago there was a

This means that the city really pays under the caption of wages what are in reality nothing but pensions, and generous pensions at that. It is also to be remembered that these superannuated employees, receiving full pay for nominal duties, exert a slackening influence upon the work of the younger men. In any branch of the public service it is the least competent who set the pace; the others see no reason why they should work any harder when they get no more pay for it.

Public Opinion in Relation to Municipal Pensions.

This situation would have been remedied long since were it not for the practical difficulties which stand in the way. A contributory pension system, such as has been established in the German cities, is difficult to apply in America. The municipal employees are against it; and their unified political power is sufficient to prevent its adoption, or if by any chance it should be adopted, is sufficient to secure the elimination of the contributory feature in time. A non-contributory plan of municipal pensions on the other hand, is thoroughly acceptable to the employees but highly unpalatable to the taxpayers, both big and little. Workers outside the public service are inclined to regard it as an unwarranted generosity. They cannot see the justice of providing free pensions for men who have held steady jobs in the public service at good rates of pay, who have never been out of work, and who are generally regarded among their fellows as a favored class. Municipal pension schemes, when submitted to the people at the polls, have often been defeated, and this despite the fact that the entire political strength of the city employees has been mobilized in their favor. The American municipal voter requires further education in this field. Nevertheless several large cities have been successful in adopting sound municipal pension systems within the past few years—New York in 1920, Chicago, San Francisco, Milwaukee and Boston in 1922. Others will doubtless follow. The issue is not one of justice alone, but of saving money.[1]

"messenger" on the Boston municipal payroll whose only duty each day was to amble down to a certain drawbridge and bring back to the city hall a list of the vessels that had passed through. The distance was only a mile or two, and the pay three dollars a day. He was known among his fellow-employees as "the human postage stamp."

[1] The details of these pension systems are too elaborate to be summarized here. A full discussion of the subject may be found in the report on *Pensions in Public Employment* by Paul Studensky, issued as a supplement to the *National Municipal Review* (April, 1922) and in the same author's

Education for the Public Service.

Speaking of civic education it is worthy of remark that although the American people spend a round billion each year to maintain the public schools, they spend nothing (or next to nothing) in specific education for the public service. There are schools of military and naval training; but there are no publicly-supported schools for the training of men and women in the work of postmasters, internal revenue officers, police commissioners, paving inspectors, probation officers, park foremen, assessors, and the like. To some extent municipal officials in the technical bureaus (water analysis, engineering, health laboratories, and so on) are trained in the regular institutions of technical and professional education, but they form but a small part of the entire municipal personnel.

A few schools training for the public service have been established under private auspices, and they have served a useful purpose; but no close correlation between preliminary training and public work can be effective, unless the training schools are conducted as public institutions. Several of the largest German cities maintain continuation schools for those who, having finished their general education, desire to enter the service of the nation, state, or city. No American city has anything of the sort. Nor is much attention paid to the training of American municipal employees after they have entered the service. In the police, fire, and school departments the desirability of this training is becoming generally recognized and provision is made for giving it; but there are as yet no indications of its recognition throughout the municipal service as a whole. In the ranks of the subordinate municipal employees there are hundreds of young men and women who, with proper training, would become well-qualified for promotion. But the best among them are not sought out, or encouraged, or aided in any way. Small wonder it is that they get into the rut and allow their ambitions to become atrophied. That is why the city halls of the country are filled with workers, at or beyond the middle period of life, who perform their tasks as though they were marionettes, who find no joy in their work, and who expect no reward other than that which is contained in the weekly pay envelope.

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# CHAPTER XXV

## ADMINISTRATIVE PRINCIPLES AND METHODS

The Need for Some Approved Principles and Methods.

No executive head of a business corporation, however vast its operations, is called upon to deal with so varied a range of problems as those that confront the chief executive of a city. The mayor or city manager finds himself responsible for supervising and co-ordinating the work of departments which are divided into bureaus, these bureaus into divisions, and these divisions into sections. No one man can hope to acquire, even in the course of several years, a personal knowledge of all that this great administrative machine is doing. All that the chief executive can do is to see that certain sound principles are laid down and certain sound methods of administration prescribed. The improper functioning of the administrative mechanism in American cities has been due in no small part to the frequent absence of any definite principles and the more frequent disregard of proper methods, especially in those city departments which have to do with the planning, construction, and maintenance of public improvements.

Especially With Respect to Public Works.

A growing community makes continuous demands for new public services and for the extension of older ones. It requires increased street facilities, more numerous and more commodious public buildings, more elaborate provision for parks and other places of recreation, together with various extensions and improvements in the water, sewerage, lighting and other municipal utilities. Together these things constitute the public improvements of the municipality; the business of constructing and maintaining them has become the chief concern of every city administration. It is to such functions that a large fraction of the current municipal expenditure is devoted, and it is in connection with them that the greater portion of the city's working force is employed. This branch of the city's business may well serve, accordingly, as a basis for discussing some of the ad-

ministrative principles and methods which must be recognized and followed if waste and inefficiency is to be avoided.

How This Work is Organized.

The work of planning and constructing municipal improvements is not organized in the United States upon anything approaching a uniform basis. In the larger cities it is not usually practicable to combine everything—streets, parks, buildings, water supply, lighting, and sewerage—into a single department without seriously overburdening it; on the other hand a separate department cannot profitably be maintained for each of these services. The prevailing policy comes out somewhere between the two. A considerable portion of the entire field, but not all of it, is brought under the jurisdiction of a public works department or department of public improvements. This department may be headed by a board, as in San Francisco, or by a single commissioner, as in Boston. Within the department there is a division into bureaus or sections, each with its own special field of work (streets, water supply, buildings, and so on). For such engineering service as the making of physical surveys and the preparation of plans the public works department may have its own technical staff or it may depend upon a central office in charge of the city engineer. The larger cities usually pursue the former plan.

Importance of Municipal Engineering.

But no matter what the general type of city government may be, or what particular plan of administrative organization may be in use, the city engineer (or the chief engineer of the public works department) occupies one of the most important among municipal offices. His office is responsible for surveys and soundings, for the preparation of all sketches, working plans, and specifications, besides being responsible to a large extent for the supervision of the work itself. The engineers make the estimates of cost, and in consultation with the law department they draft the contracts when contracts are needed. The city planning board may prepare the general outlines, but it has no concern with the engineering details. This does not mean, however, that the details are of negligible importance; on the contrary the ultimate success of city planning in its larger aspects must necessarily depend upon the skill and care with which each particular phase of the plan is adjusted to the whole.

In European cities the engineering work of the municipality is entrusted to a professional of high rank who holds his office

Municipal Engineers in Europe and America.

without limit of time and is well protected from the pressure of political influences. This is true of British, French, German, and Italian cities alike. In these countries municipal engineering is a profession; men prepare for it, enter it young, and spend the active years of their lives in it. In American municipalities, on the other hand, political considerations often determine the selection of the city engineer and continue to influence his actions after appointment. The term of office is rarely more than four years, and there is no assurance of reappointment even if the duties of the office have been satisfactorily performed. The pay is rarely sufficient to attract high grade men; the emoluments of private practice are much larger. The head of the engineering department is expected to make himself inoffensive to the politicians, and this he cannot usually do without being in some degree unfaithful to his own professional responsibilities. The consequence is that men who have failed to make headway in the private practice of their profession often drift into the city's engineering service and sometimes to the top of it. Much of the unpardonable waste in municipal construction has been the outcome of poor designing, faulty specifications, loosely-drawn contracts, and slipshod inspection of work in process—all of which hark back to a lack of skill, diligence, and integrity in the engineering department. Here is a branch of their work in which American cities have practiced false economy. Poor engineering service is dear at any price. The cost of a single error may exceed a generous salary many times over.

Functions of a Municipal Engineering Department.

The more important matters which the engineering authorities handle may be grouped under seven heads, namely, the taking of land for public improvements, the preparation of working plans, the making of specifications, the estimating of cost, the drafting of contracts, the giving of professional advice on the award of contracts, and the inspection of work under way. In the performance of each function there is need not only for technical skill but for absolute honesty and impartiality. The latter, indeed, is a prime desideratum, for the pressure of influential contractors, seeking to gain advantage at the expense of the city, is strong and relentless,—so strong, in fact, that only a robust brand of honesty can stand up against it. It is an unfortunate fact in many American cities, but a fact nevertheless, that the engineer who stands true to the public interest as

he sees it, and declines to let politics sway his professional judgment, eventually finds himself without political friends and incurs the risk of losing his place. If the taxpayer could be brought to a realization of the heavy penalty which is being placed upon him by the continuance of this situation, it would speedily be brought to an end. But the pressure and intriguery runs through sub-surface channels and the average citizen has no conception of it. He does not stop to reckon what this collusion between engineering and politics is costing the city, nor would it profit him much if he did, for the damage is not apparent at the time when a public improvement is completed. It is sometimes years after the work is done that the full consequences disclose themselves.[1]

**The Acquisition of Land.**

In connection with the construction of extension of public works it is usually essential, first of all, to acquire land from private owners.[2] The suggestion is sometimes made that the city ought to take time by the forelock and acquire land in advance of its needs, but it is extremely doubtful whether any such policy would prove economical in the long run. Private business concerns do not do it; they rarely buy land until they are ready to use it. When the city waits until the immediate need appears it must expect to pay a higher price than would be the case if it had taken advantage of some favorable opportunity earlier, but it costs money to hold land unused, and through changes in the drift of population or of traffic the location may prove unsuitable in the end.[3] There are occasions, of course, when ordinary prudence dictates that a city shall acquire, for future street widening, some particular strip of land before it becomes extensively built upon; but it rarely pays to load up with future sites for schools, playgrounds, police stations and the like. The city which does this on any considerable scale

[1] Many examples might be given, but one will suffice. An investigation of the League Island Park construction in Philadelphia some years ago disclosed that no detail plans or specifications had been prepared at all, that the contract was nevertheless awarded and the work performed with virtually no inspection. The result was the expenditure of $1,500,000 for a poorly constructed and unsightly park area, much of which had to be made over again. Morris L. Cooke, *Our Cities Awake* (New York, 1918), p. 29.

[2] For the methods of acquiring the land, see *below*, pp. 87-88.

[3] The city pays no taxes on land so held, of course, but it loses the taxes which would be paid if the property had been left in private hands.

is merely tying its own hands in anticipation of contingencies which do not always materialize.

The land having been acquired by the legal and engineering officials working together, the next step is to ask the city engineer's office, or the engineering bureau of the public works department, for a detail plan showing what is to be done. The work often requires considerable time because special surveys and soundings may have to be made and various engineering problems surmounted. If necessary, a consulting engineer may be called in to give counsel on special problems, as in the case of a pumping plant or incinerator. On some occasions the work calls for such specialized skill and experience that it is turned over as a whole to an outside engineering concern. Such is the practice, more particularly, with plans for bridge-building, or for a water supply system, or for some unusual type of building such as a public library or a city hospital. This is an age of technical specialization and the city engineer, however capable, cannot specialize in all these things. In any event the ultimate success or failure of any public improvement depends in the first instance upon the intelligence and skill with which the plans are drawn and inevitable contingencies provided for. A relatively small miscalculation may involve a great deal of delay, inconvenience, and unprofitable expenditure. The contractor, when the time comes, will scrupulously follow the plans and let the city bear the cost of correcting its own mistakes. It is not his business to check up on measurements and strength of materials. Good plans for public work must leave nothing to the imagination; they should indicate every detail with approximate accuracy and should make ample allowance for margins of error.

**The Making of Working Plans.**

**Importance of Accuracy in Making Them.**

Plans can be corrected, of course, after a contract has been awarded, but such changes involve a heavy increase in cost. The contractor, having merely agreed to do the work in accordance with the original plans at a designated figure, feels free to present claims for additional compensation when the plans are altered and in nine cases out of ten he is likely to get it. The extra outlays which result from belated changes in plans and specifications often exceed the entire cost of preparing the plans in the first place. Much of the trouble results from the practice of basing plans upon old and inaccurate surveys or upon landmarks which prove to have been wrongly located.

**The High Cost of Inaccuracy.**

At some time in the life of every city a comprehensive and precise survey with transit, level, and tape ought to be made. The earlier this is done the better for everybody except the lawyers. The city engineer's office should have this data, all properly indexed and readily accessible.

**The Specifications.**

Along with the working plans, and supplementing them, are specifications which the city's engineering staff or outside consultants also prepare. Specifications are written or printed; they explain the drawings by indicating the precise materials and methods to be used, the time allowed for construction, and the arrangements for periodical inspection when the work is in progress. In the case of an extensive public improvement they may cover a hundred typewritten or printed pages. The specifications, of course, are quite as important as the plans. If there are omissions or ambiguities, or if there is a lack of coincidence between what the plans show and what the specifications call for, the result is bound to be delays, disputes, and sometimes prolonged litigation. All that has been said concerning competence and care in the making of plans applies with equal force to the drafting of specifications. Inadequate or loosely-drawn specifications, prepared by some fledgling engineer whose appointment was inspired by political favoritism, have put American cities to trouble and expense on numberless occasions.

**The Estimates of Cost.**

Estimates of cost, based upon the plans and specifications, are likewise prepared by the engineering department. These estimates are for the information of the mayor, city manager, city council, or commission as the case may be, and enable them to decide whether the project can be handled within the existing financial resources. It sometimes happens that the estimates of cost prove higher than was expected and the enterprise is then postponed or abandoned altogether. The engineering department's estimates, in case the work is authorized, ought to be of service in checking up the bids submitted by contractors, but too often they prove to be of little service to anybody because they have not been worked out with sufficient care. Preliminary figures submitted to mayors and city councils are proverbially wide of the mark, and unhappily they almost always err on the side of optimism. The contractors' bids, when they come in, are regularly in excess of the estimates, often far above them, and the ultimate cost of the improvement proves to be higher

still,—sometimes twice or three times as high as the initial figures.

Preparation and Awarding of Contracts.

When it is the city's purpose to have the work done by a contractor, as is usually the case, the municipal authorities prepare a form of contract, have it approved by the law department, attach it to the plans and specifications, and advertise for bids or proposals. This is done, as a rule, by inserting in the local newspapers or in the technical periodicals an announcement stating that sealed proposals will be received by the city engineer, the commissioner of public works, or by some other official on or before a certain date. The usual practice is to stipulate that each bidder shall submit, along with his figures, a bond or certified check as an assurance that he will accept the contract in case it is awarded to him. If the proceedings are in good faith, the announcement will be placed where contractors are likely to see it, and pains will be taken to send marked copies of the advertisement to all who are likely to be interested. Ample time will also be allowed for an inspection of the plans and specifications, as well as for careful figuring upon all items before the date on which the sealed proposals are to be opened. But frankness and good faith do not always feature the advertising or award of city contracts. There are at least a dozen ways whereby a competition can be so manipulated as to assure that no one but a hand-picked political favorite will have the slightest chance of securing the award.

Manipulating These Awards.

Some of these manipulations may be briefly described, for not only are they common but they demonstrate how easily the spirit of the laws and ordinances can be set at naught when public officials lay themselves out to do it for the benefit of their political friends. City charters and ordinances commonly require that contracts shall be duly advertised and awarded to the lowest bidder. But they also, in most cases, permit exceptions to be made under special circumstances. These exceptions are proper, their intent being to allow the summary award of contracts without advertising or competition in cases where there is good reason, in the public interest, for such action. It is a waste of time and money, for example, to require advertising and competitive bids in the case of small jobs, amounting in each case to only a few hundreds of dollars. Some work, moreover, such as the replacement of a demolished bridge or the

The Splitting of Contracts.

rebuilding of a fire station may have to be done in the shortest possible time. It is usually provided, therefore, that contracts involving relatively small outlays, or contracts relating to work of great urgency, may be awarded without advertising or competition. But these loopholes can be stretched inordinately, and the city authorities sometimes have no scruples in that direction. For example, they can divide one large contract into a host of small ones so as to bring the whole thing within the permitted exceptions. So, instead of having to earn a fifty thousand dollar contract by open competition, the contractor who is in favor at the city hall accumulates a score of small non-competitive contracts, all for different parts of the same job,—for the excavation, the foundation, the frame, the roof, the floors, the plastering, and the painting of the same building. This is commonly known as the "split contract" device and it has been widely utilized. There is no way of preventing resort to it so long as city officials, while keeping within the letter of the law, are ready to violate its plain intent.

Other Ways of Making the Awards Unfairly

Another method, a rather crude one, is to give some favored contractor a copy of the plans and specifications in advance of their being made public; bids are then required to be submitted in so short a space of time that no one else has a fair opportunity to figure on the work. Yet another device is to provide in the specifications for the use of certain patented materials which a favored contractor happens to control. It is not that these materials have any superior merit; the idea is to eliminate competition. The specifications for street paving contracts may require, for example, that a certain brand of asphaltic substance be used (there may be half a dozen other brands equally good), or may stipulate that the work be done in accordance with some patented process. Such requirements are rarely dictated by any desire to get the maximum value for the least expenditure; their almost invariable purpose is to deflect the award of the contract into friendly hands.

Awarding Contracts After Unbalanced Bidding.

Unbalanced bidding, so-termed, illustrates still another method of awarding contracts on a basis of partisan or personal favoritism. Proposals are invited for two or more portions of the same job—for excavating and refilling a sewer extension, let us say.[1]

[1] Separate bids may be invited for supplying one-horse teams, two-horse teams, and motor trucks in connection with garbage removal or any other

The contractor who is in collusion with the officials will bid high on one part of the job and low on the other; the officials then proceed to figure that his two bids, when averaged out, are lower than those of his rivals. If there is any controversy over the matter, both sides will argue that their own methods of figuring were correct and the voters will understand neither of them.

The Practice of Paying for "Extras."

If the exigencies so demand, as they sometimes do because of the watchfulness of public opinion, the politician-contractor may submit a bid which is in fact the lowest among those that come in. But this does not mean that he expects to do the work at the price stated. He has had subterranean assurances which set at rest fears in that direction. So the contract is awarded to him and presently it turns out that many "extras" are needed. These have been intentionally left out of the specifications and the contractor is now permitted to supply them at his own figures, thus recouping himself on the extras for his lack of profit on the original contract. Sometimes these extras on public contracts have mounted to forty or fifty per cent of the entire cost.

Winking at the Evasion of the Specifications.

But the most common way of putting an unearned increment into the pockets of a contractor is by letting him depart from the specifications. Bids are submitted on the understanding that the work will be carefully and regularly inspected as it proceeds; penalties are provided in the contract for any defects in the materials or for any unauthorized departure from the methods of construction specified, or for not having the job finished on time. The honest contractor knows that he will be held to a strict accountability at every point, and that the penalties will be applied if the occasion should arise; but the bidder with influential friends among the city officials can reckon differently. He knows that the inspectors will connive at the substitution of inferior materials and that no one will be any the wiser. Why not? The officials and the inspectors often owe their appointments to the contractor and his friends.[1] Sometimes they are

hauling job. The contractor who is on the inside will bid high on the motor-truck end of the proposition and low on the teams, being assured that if he gets the contract no teams, or very few, will be called for.

[1] In Philadelphia, some years ago, the new Director of Public Works found that "most of the specifications had been written by contractors and that most of the work covered by these specifications had been inspected by men on the contractor's payrolls." Morris L. Cooke, *Our Cities Awake* (New York, 1918), p. 30.

secretly on his private payroll as well as openly on that of the city. There is a sufficient profit in this type of collusion between the contractors and the inspectors to afford remuneration for all who are concerned in it.

Collusive Bidding.

Another type of collusion which is sometimes practiced at the expense of the city takes the form of an agreement among contractors to avoid genuine competition. Contractors meet casually and say in substance to one another: Why should we become rivals for the city's benefit? There are enough contracts to go around; let each have his share at figures which are profitable! Whereupon a gentleman's agreement is made by which each contractor is assured his portion of the work without competitive interference. The others will submit bids, of course, but will take pains to see that their figures are high. Such conspiracies in restraint of competition are illegal, and punishable by the courts; but their existence is hard to discover and even harder to prove. Nothing is put down in black and white; it is merely a matter of a few whispers passed along the line from nobody knows where.

The Men Who Take Municipal Contracts.

An eminent American engineer of wide and varied experience has divided municipal contractors into three classes. First, he says, there is the man who conducts his business on a legitimate and honest basis, who has no political affiliations, and who deals with the city as though it were a private corporation striving to get full value for its expenditures. Men of this type get very few municipal contracts. The second class includes a more numerous group of contractors who have neither financial responsibility nor established reputation, and who are often without experience in work of the character they bid upon. They are soldiers of fortune, who are willing to gamble on the chance that somehow or other they can manage to give the city less than it pays for. When losses occur, the contractor does not suffer, for he has neither capital nor reputation to lose. It is because of this that cities have adopted the practice of requiring bonds with sureties from all who receive awards, thus being able to fall back upon the bondsmen when the contractor defaults. Finally there are contractors who put their trust, not in chance, but in collusion or corruption. To them every public official has his price, whether in money or in political support. They figure on purchasing the favor of officials just as they buy materials

and labor—all as part of the cost of the job. Every city in the United States has its contractors of this type.[1]

The Importance of Inspection.

Regular and strict inspection is the city's principal safeguard against dishonest and inferior work on the part of those who obtain municipal contracts. Nevertheless it is safe to assert that few city employees are chosen with less discrimination than are the inspectors of public improvements. Where there are no civil service regulations these inspectors are almost invariably appointed for personal or partisan reasons, often at the behest of a ward boss who is in league with the contractors. Even civil service competitions do not succeed in supplying the city with men whose attainments are above mediocrity, or afford a guarantee that the inspectors will be men of courage and integrity. The temptations are very great. The inspector who is proficient in his duties and relentless in performing them stands to gain nothing but the ill-will of the contractors, the hostility of their political friends, and perhaps the disfavor of his own superiors. On the other hand the inspector who is lenient, careless, corrupt, or inefficient need usually have little fear of losing his job. These who profit by his failings can be counted upon to stand by him, and even to take care of him if dismissal from the city's service should eventuate. This may be a drab picture of one important branch of American city administration, but it is not without warrant, as members of the engineering profession are well aware. No one would assert, of course, that regular, strict, and honest inspection is never applied to contract work in American cities; but it is the exception rather than the rule. And the remedy is not easy to prescribe. More inspectors, better pay, strict civil service competitions, and security of tenure have all been suggested. But so long as the contractor is active in politics and the public is not, one is likely to get better service than the other.

Why Inspectors Are So Often Lax.

The Bonding of Contract Work.

As a means of protecting the city against ultimate loss through the crookedness of contractors and the infidelity of inspectors it has become the practice, in many communities, to provide that all public work performed by contract must be guaranteed for a definite number of years. The contractor who paves a street, for example, must in such cases give an approved bond to ensure

[1] Samuel Whinery, *Municipal Public Works* (New York, 1899), pp. 82-83.

that any defects which may appear in the pavement during five, ten, or even fifteen years after its completion will be properly repaired at the contractor's expense. If the contractor fails to make matters right, the city does the work and collects on the bond. Occasionally a part of the contract price is held back for a term of years as an additional safeguard. These provisions, on their face, might seem to afford the city an ample measure of protection, but in practice they rarely do so. Bonds and bondsmen often prove to be worthless; good bonding companies are disinclined to go surety for municipal contractors over a term of years. When a portion of the contract price has been withheld, say ten or fifteen per cent, it frequently turns out to be inadequate. To afford absolute protection against any possible loss it is necessary to hold back a much larger percentage and such a policy is likely to discourage competition from reputable contractors whose business methods are not adapted to the practice of waiting several years for the payment of bills. The guerilla contractor, on the other hand, will take his chance that political pressure will avail to get him his pay in full when the work is done, no matter what the contract may stipulate. All this should not be taken to mean that the policy of requiring contractors to guarantee their work is futile; on the contrary, it often saves the city a good deal of money. But it is of itself a sufficient reliance, and it is a very poor substitute for capable, honest inspection.

Its Lack of Any Considerable Value as a Safeguard.

In view of the many opportunities which the contract system affords for waste and crookedness, one may well propound the question: Why not abolish the contract plan? Why not have the city do the work through its own officials and employees, thus eliminating the contractor altogether? Some cities have tried this plan; it is called the direct or day-labor system of public work. The results of experience with it are not conclusive; but merely indicate that while the direct system avoids some evils and has some distinct merits, there are offsetting disadvantages which render it little if any better than the contract plan. Whether the balance of advantage rests with one plan or the other is a matter of controversy. Much depends upon the nature of the work and upon the competence of the officials who do it.

The Contract vs. the Day-Labor Plan.

It is a common assertion that day-labor work is better and more honestly done than contract work. Neither the workers

Arguments for the Direct Labor Method.

nor their foremen have any incentive to use inferior materials or to take short-cut methods when the contractor is eliminated. "They may do their work slowly, but they do it well." Unhappily this assertion does not always find corroboration in results. Plenty of inferior work is done by municipal workers under the superintendence of municipal officers. Those who advocate the direct labor system are fond of making the generalization that contractors are interested only in personal profit, while the city's own officials and employees try to give the taxpayers a just return for their expenditures. The first part of this statement may be correct; the second assuredly is not. The interest of the city's officials and employees rarely extends to the point at which they will sacrifice their own ease and convenience in order to save public money. The easiest way, not the best way, is what they are likely to follow when left to themselves. Insofar as work done under the two plans can fairly be compared it does not appear to competent judges that the one averages any better than the other. Day-labor work ought to be better in quality; it sometimes is, but it very often is not.[1]

The Cost of the Two Methods Compared.

The question of cost is also in point. There are plenty of figures as to the relative cheapness of contract-work and day-labor work, but they have been made the basis of diametrically opposite conclusions. This is not surprising, for no two municipal improvements are exactly the same in all respects; hence exact comparisons of cost are almost impossible to make. There is no inherent reason why one plan should cost much more than the other; the same amount of material, labor, and superintendence is required in either case. The city should be able to secure its materials and labor as cheaply as a contractor, or more so. But here, as in all other phases of municipal enterprise, the tentacles of politics tear a gap between what might be and what is. In buying materials the American city rarely buys at rock-bottom prices. It pays its workers more than contractors ordinarily pay; it gets less efficient labor for the money, and less work from the men in a given space of time. Municipal foremen are not stern taskmasters; they will usually overlook a degree of indolence that no contractor would tolerate. There are excep-

[1] See H. P. Eddy's article on "The Relative Efficiency of the Day-Labor and Contract Systems of Doing Municipal Work" in the *Journal of the Associated Engineering Societies*, Vol. XLIV, pp. 24-67 (January, 1910).

tions to all this, no doubt, but they are not sufficiently numerous to invalidate the general rule.

Unreliability of Most Figures on This Point.

From time to time the municipal authorities decide to reject all bids for a proposed improvement and do the work themselves. Then, when the job is completed, they announce that the actual cost has been less than the lowest bid. But a careful analysis of the facts will show such claims to be rarely warranted. It is merely that important items of actual cost to the city have been left out of account,—interest on money used during the process of construction, material obtained from other city departments, the part-time services of engineering and other city officials, depreciation of the apparatus used, and so on. Figures which purport to show that an American city is doing any sort of public construction at less cost than it could be done under a free and fair competitive system should be viewed with suspicion. This does not mean that they are always inaccurate, or that under the direct-labor plan public work is never economically done; but the probabilities are against it. Although many cities have tried the day-labor plan, very few of them have retained and extended it.

A Serious Defect of the Day-Labor Plan: the Impossibility of Guaranteeing the Cost.

It is a serious defect of the day-labor plan that the city is unable to determine how much a job done under this system is going to cost. Estimates are made by the city officials, of course, but they almost always turn out to be too low by a wide margin. When a contractor bids too low, he or his bondsmen may be compelled to stand the loss. But when the contractor is eliminated the guarantee of maximum cost goes with him. Whatever the cost may turn out to be, the taxpayer shoulders it all. If the sum originally appropriated for the work is not sufficient, more will be asked for, and various excuses will be hatched to explain the unforeseen and unavoidable expenses that were incurred. The additional money will then be provided; for there is no alternative except to leave the work unfinished. The contract system, when honestly and strictly administered, places the city in the position of knowing in advance just what the ultimate cost is likely to be.

The contract system also lends itself to the rapid completion of extensive public enterprises. The contractor has everything to gain by speeding the work. If necessary, he expands his force and works his men in double shifts. It is true that the city's

staff of foremen and workers can also be enlarged if need be, but when the job is finished there remains the difficult problem of getting the surplus labor off the payroll. From all quarters will come political pressure to prevent lay-offs. The temptation to shift such employees into other city departments, where they are not really needed, or to go ahead with other projects in order to keep them employed—every seasoned official knows how great this temptation is. Where a great deal of work has to be performed in a single season it is highly inadvisable, as a practical matter, to take hundreds of men into the municipal service with the expectation that they can be summarily discharged, as a contractor would discharge them, the moment the job is done. Municipal labor inflation is very easy; deflation is correspondingly difficult.

The Day-Labor Method Also Leads to the Permanent and Undue Expansion of the City's Labor Force.

Students of the unemployment problem have suggested that municipal public works should be so planned that little construction will take place when labor is scarce and much when it is plentiful, in other words that large public improvements should be delayed, whenever practicable, until times of industrial depression. Then they should be put through by using labor which would otherwise be idle. Within certain bounds this suggestion is practicable; but there are many public improvements, such as the erection of schools and the repair of streets, which cannot well be delayed year after year until the economic cycle has run its round. It is to be borne in mind, moreover, that the majority of those who are temporarily thrown out of employment by reason of a general business depression—factory employees, clerks, and the whole array of "white-collar" men as they are sometimes termed, can hope for little or no relief from the speeding-up of public construction. Such work creates a demand for mechanics and plain laborers only. Even an extensive program of public works, therefore, can contribute little to the alleviation of unemployment as a whole.[1] There is the danger, moreover, that needless projects will be taken in hand, and large sums of money wasted, under color of providing work for the needy. The recent experience of English cities in this regard has been very illuminating.

Public Improvements as a Means of Alleviating Unemployment.

The investigator who tries to reckon the relative cost of any municipal public enterprise or service in different cities will be

The Unit-Cost of Municipal Work.

[1] For a further discussion see Chap. XXXVII.

impressed by the surprising discrepancies which appear in the published figures. For what is ostensibly the same thing, two cities of nearly the same size, in the same part of the country, are indicated on the face of the figures to be paying widely different rates. The cost of paving streets, laying water mains, building sand filters, equipping schoolhouses, or modernizing fire apparatus often shows a measure of variation which the student of municipal administration finds very disconcerting. But the explanation, in nine cases out of ten, is that each city reckons its unit-costs on a different basis. Until a few years ago it was only in rare cases that cities attempted to work out unit-costs at all. Their annual reports were full of statistics,—unrelated, undigested, uninterpreted. One might look for hours through the vast panorama of figures in a futile effort to discover how much the city was paying for anything per capita, per square yard, per ton, or per anything else. But cost-accounting has made great progress in the larger cities during the past decade; it is one of the things which they have borrowed from private business. The methods are not yet standardized, however, and it is still very difficult to make reliable comparisons of what is being paid for the same service in different communities. The adoption of standardized unit-cost accounting methods, covering all city departments, but more particularly the physical departments, would be an administrative reform of great value.

**First Cost and Final Cost.**

The initial cost, however, is not the only thing to be considered in determining the ultimate expensiveness of a public improvement. A small outlay at the start may involve disproportionate annual charges for maintenance; a far larger investment at the outset may prove cheaper in the end. This is true in public as in private business. A great deal of false economy has been practiced in American cities by reason of the emphasis placed on initial cost. Things are called expensive when the first cost is high, and cheap when this is low. The reverse would often be nearer the truth. The real cost of a street pavement, for example, is not the figure that happens to be paid for laying it. Durability, suitability to traffic, appearance, cost of repairs, and cost of cleaning must all be taken into account in estimating the ultimate financial burden. Too little attention has been paid to this aspect of public improvement problems. City officials are elected or appointed for short terms; they want to get things done quickly

so that they may "point with pride" to their achievements before they go out of office. As for the future they are content to bequeath its problems to their successors.

Methods Are as Important as Men.

From what has been written in the preceding paragraphs it will appear that efficient city administration is a matter not only of men but of methods. Even though the organization of the departments be well-planned, and the city's working force industrious, the results will rarely be up to expectations if loose or obsolete methods of doing the city's business are tolerated. The effectiveness of a city official depends not only upon his intelligence and his honesty but upon his knowledge of sound administrative principles. A well-organized administrative mechanism will run smoothly and give very little trouble to the man who is responsible for it.

## REFERENCES

On the methods of getting municipal work performed Samuel Whinery's *Municipal Public Works* (New York, 1903) is still of great value despite the fact that it was published twenty years ago. Later discussions of this subject, from various points of view, may be found in Morris L. Cooke, *Our Cities Awake: Notes on Municipal Activities and Administration* (New York, 1918); A. B. Gilbert, *American Cities: Their Methods of Business* (New York, 1918); W. P. Capes, *The Modern City and its Government* (New York, 1922) especially Ch. iii (Making Municipal Officials Efficient); and W. B. Munro, *Principles and Methods of Municipal Administration* (New York, 1915) especially Ch. i. The first chapter of A. P. Folwell's *Municipal Engineering Practice* (New York, 1916) contains some good material.

Numerous studies of the methods used by American cities in various departments have been made by bureaus of research and efficiency during the past dozen years. They may be found by consulting a file of the *Bulletins* issued by the New York Municipal Reference Library. See also the references at the close of Chapters XXIII-XXIV.

# CHAPTER XXVI

## THE PLANNING AND REPLANNING OF CITIES

What City Planning Involves.

Increased attention is now being given, the world over, to the improvement of the fundamental influences affecting city life. This new solicitude has been inspired by the extraordinary growth of cities, by the steadily increasing complexity of urban relations, and by a better appreciation of the fact that contented citizenship is largely a matter of congenial environment. The enterprise which is known as city planning may be broadly defined as an endeavor to transform the modern community into a safer, more convenient, more healthful, and more attractive place of human abode.[1]

Its Broad Scope.

City planning goes down to fundamentals. It is not merely a matter of engineering and architecture; it goes deeply into the lives of the citizens. It aims to provide the city-dweller with better physical, social, and moral surroundings. It includes not only the designing of thoroughfares, parks, and playgrounds, but the location of public buildings, the provision of public utilities, the regulation of private property in the public interest. It includes also the study and planning of laws and ordinances, the devising of improved financial methods and the exercise of social control in such directions as are likely to promote the general wellbeing. City planning thus involves the anticipation, so far as practicable, of all the city's future needs, physical, social, and financial. It seeks to turn the lessons of the past to the profit of the future.

Two Popular Misconceptions:

Two popular misconceptions in relation to the subject ought to be cleared up at the outset. One is the notion that city planning is largely, if not altogether, a matter of physical beautification—of wider streets, more parks, artistic public buildings, and elaborate civic centers. The expression "city beautiful" which finds its way into so many discussions of the subject, has

[1] For various definitions of city planning see Nelson P. Lewis, *The Planning of the Modern City* (New York, 1922), pp. 9-11.

been in part responsible for this popular error. And the fact that those most actively engaged in city planning have been engineers or landscape architects has helped to confirm the impression. But city planning is concerned with beautification as an incident only, and not as a primary end. Convenience and utility are the essential goals; attractiveness goes with them for good measure because it is entirely compatible with the other two. The initial emphasis in programs of city planning has usually been placed upon such things as new traffic thoroughfares or additional playgrounds or the creation of industrial zones because these are urgent and obvious needs in most modern cities, readily understood both by public officials and by the people.

1. That City Planning is Largely a Matter of Civic Beautification.

The second misconception, perhaps not so widely spread, is that city planning involves wholesale reconstructions at great expense, thus burdening the communities with huge sums of unremunerative indebtedness. It is true, of course, that any comprehensive replanning project involves outlay, but no sensible advocate of city planning expects such projects to be consummated quickly. It is rather a matter of working slowly but steadily towards a definite goal, spending little if anything more than would be expended by unplanned and haphazard methods. No one can easily reckon the waste which has resulted from the unguided and planless growth of cities; even large outlays are justified where they give assurance that some of this waste can be eliminated. The city planner endeavors to forecast the extent, the direction, and the nature of community growth for twenty, thirty, or even fifty years ahead. It is his aim to persuade the public authorities that they should have an eye on future needs as well as on immediate requirements. This is not an easy thing to do because city officials are elected or appointed for relatively short terms and they want to see tangible results before they go out of office. There is a strong temptation, accordingly, to settle each problem by using whatever makeshift costs the least and takes the shortest time for completion. In the long run there is no economy in that method.

2. That it Involves Heavy Outlays.

There are two fields of city planning, one presenting much more difficult problems than the other. The first is the planning of new communities before they grow to any considerable size—new industrial centers for example, or new residential suburbs. This phase of planning has now become general; wherever new

Planning and Replanning.

areas are opened, especially on the outskirts of large cities, the physical lay-out is usually determined in advance. Less extensive progress has been made with the other type of city planning, which involves the tearing down and reconstruction of what has already been built, in other words the rectification of errors made in the past. This re-planning is necessarily so expensive that it can only be done a little at a time and at points where conditions have become intolerable. To put it very briefly, then, city planning is concerned with the correction of past mistakes and the avoidance of similar mistakes for the future. Both aspects of the subject are important, the latter particularly.

Early Examples of City Planning.

City planning is often spoken of as a modern development and correctly so if we are thinking only of its widened scope. But certain physical features of community planning were the subject of expert study more than two thousand years ago. The cities of the ancient world were planned in part, sometimes in considerable part.[1] But in the dark centuries which followed the overthrow of Rome this remnant of urban civilization disappeared along with many others; the older cities of mediæval Europe became areas of indescribable squalor, while the newer towns grew up in chaos and wretchedness. No street lines were definitely fixed. Some central spot such as a castle or monastery became the nucleus around which a feudal community developed in hit-or-miss fashion with the buildings huddled together for mutual protection. During the fifteenth century some attention was given to civic replanning, particularly in the prosperous commercial cities of Italy and the Hanseatic regions, but this reconstruction never assumed comprehensive proportions.[2] The city played no great part in mediæval life; it was merely an isle of safety; likewise a place of misery and pestilence; a sprawling slum which the rich and powerful and intelligent avoided whenever they could. What there was of romance and glamor and chivalry during these thousand years of European history associated itself with the rural life.

Wren's Plan for London.

The renaissance in city planning followed the great London fire of 1666. Since the burning of Rome in Nero's reign no such

[1] Almost invariably the streets were run straight and intersected each other at right angles. The very earliest Egyptian communities followed this plan.

[2] See the plan of Brussels in 1572 in C. M. Robinson's *Width and Arrangement of Streets* (New York, 1911), *Frontispiece.*

conflagration had swept a city and no such opportunity to rebuild a great metropolis had presented itself. London, before the great fire reduced most of the city to ashes, was a typical product of mediæval haphazardness,—congested, unsanitary, wallowing in filth, and never free from plague. Sir Christopher Wren, the foremost architect of his day, was commissioned to make a new plan upon which the city might be rebuilt, and he performed his task with great intelligence. Unhappily, however, very little came of his work. Had Wren's plan been followed it would have given London first place among the world's great cities in point of convenience and attractiveness, but the landowners of the city begrudged the generous amount of space which Wren desired to reserve for main thoroughfares. Their opposition prevailed with the authorities; the plan was pigeonholed, and London was rebuilt upon substantially the old lines. Thus the best opportunity for city planning ever given to a great urban center was utterly lost and it has never recurred. The monetary waste that has resulted during the past two hundred and sixty years from this lack of vision on the part of seventeenth-century London is quite beyond computation. The Londoner of today looks upon the rejection of Wren's plan as the greatest tragedy in his city's history.

Penn's Plan for Philadelphia.

The next opportunity came to America. In 1682 William Penn laid out, in a large square between the Delaware and Schuylkill rivers, the beginnings of Philadelphia. The tract, as originally planned, covered a rectangle about two miles long and one mile broad; the Philadelphia of today has spread itself over one hundred and thirty square miles. Penn's plan was very simple. In the center of his new community he provided an open space (now Penn square) and at each corner of this open space it was his intention that the public buildings should be erected.[1] As for his street plan, two arterial thoroughfares intersecting at right angles, with numerous cross streets, each straight and symmetrical, gave it the general appearance of a gridiron.[2] This formal scheme of street layout thus made its first lodgment in the new world and in due course was widely copied.[3]

[1] The location proved inconvenient, however, and the buildings were in fact erected elsewhere.

[2] The two main highways, Broad St. and Market St., were one hundred feet wide; the cross streets were only half this width.

[3] Philadelphia for a long time kept the lead in provision for the systematic

L'Enfant's Plan for Washington.

The second American city to begin its history with a comprehensive plan was Washington. The selection of a site for the national capital was dictated by purely political considerations; the location itself had few natural advantages. But the founders of the Republic believed that Washington would some day be a great community and they wisely determined to give the place a start along the right lines. To make a comprehensive plan the services of Major L'Enfant were requisitioned and his recommendations, which were the outcome of prolonged study, eventually received adoption.[1] The L'Enfant plan conformed in the main, to the then-current practice, using a rectangular groundwork with straight thoroughfares intersecting at right angles, as Penn's plan had done. But in certain important respects it departed from this orthodox arrangement. More particularly it made provision for twenty-one diagonal avenues connecting important points by direct routes and superimposed upon the gridiron. A notable feature was the setting apart of sites for the chief national buildings, the Capitol and the executive mansion, at the respective termini of a broad avenue.[2] Penn's plan covered only two square miles; L'Enfant's extended over forty. The latter was unprecedently generous, moreover, in its reservations for street widths and open spaces, taking more than half the entire area for public purposes. As a whole L'Enfant's ideas were admirable; but his plan was conceived on too elaborate a scale. The city grew very slowly, and its destruction by the British in 1814 was a severe blow. Modifications in the original plan were accordingly made from time to time with the ostensible purpose of promoting more rapid development. Eventually the city expanded to the proportions which L'Enfant contemplated, and in 1902 a

Its Notable Features.

planning of new streets. In 1854 the city established a department of surveys which exercised a dominant and continuous control over the development of the street system. Its authority covered the planning of sewers and bridges as well.

[1] Pierre-Charles L'Enfant was a French military engineer who had served with the Continental forces during the Revolutionary War and whose work had at that time attracted the attention of the commander-in-chief. He proved to be a careful but intolerably slow worker, and the government almost lost patience with him before he was through.

[2] L'Enfant's plan provided that the Capitol should be at one end of Pennsylvania Avenue and the White House at the other, with a clear field of vision between. This feature of his plan was later negatived by the erection of the Treasury Building between the White House and the head of the Avenue.

commission was appointed by the national government to make some additions; but despite these various modifications, the present plan of Washington is essentially as L'Enfant drew it. The capital remains today the best-planned among all the larger American cities.

New York's Early Experience in City Planning.

Looking at any map of New York City one is impressed with the marked difference in street layout between the lower and upper reaches of Manhattan Island. The lower area was not planned in advance of its settlement; it is merely an elaboration of the old Dutch town. But in 1807 a commission was appointed to design the upper portion of the island and the checkerboard arrangement which now characterizes the city streets from Fourteenth northward is the outcome of its work. It was assumed that the main lines of traffic would run from river to river, a natural assumption in 1807, but one which history has now shown to have been erroneous. The commission did not adopt L'Enfant's scheme of diagonals [1] and although it made a liberal provision for open spaces most of these were later eliminated through the influence of real estate promoters. This action of New York in adopting the straight gridiron arrangement was very influential in its effect upon other American cities. Practically all of them followed the example of the metropolis and L'Enfant's influence passed for the time into eclipse. New York during the first half of the nineteenth century was growing rapidly in population and prosperity while Washington remained, until the Civil War, a straggling town with more hopes than people. It was natural, therefore, that the newer western communities,—Chicago, St. Louis, San Francisco and the rest—should have followed the city on the Hudson rather than the city on the Potomac. So the gridiron spread everywhere. Little or no account was taken of future transportation requirements, or of the need for open spaces in proportion to city growth, or of the desirability of utilizing whatever natural advantages a new city might possess. Everything went determinedly along commonplace and uniform lines. Streets were laid out with a pencil and ruler, up hill and down dale, regardless of what stood in the way.[2]

[1] The two diagonal thoroughfares in this portion of the city, Broadway and the Bowery, are merely prolongations from the lower part of the Island.

[2] Mr. Simeon Strunsky, some years ago, paid his respects to "the æsthetic snobs who are always deploring the checkerboard plan of Manhattan Island, with avenues that run up and down and streets that sprint from river

The Haussmann Reconstruction of Paris.

In Europe, however, the drift of city planning took a somewhat different course as may be illustrated by the experience of Paris. Napoleon I, during the opening years of the nineteenth century, made some notable improvements in the city, chiefly in the provision of new squares, parks, and radial avenues. A much more extensive replanning took place during the Second Empire, under the ægis of his nephew, Napoleon III (1852-1870). The latter set out to make Paris the most attractive city in Europe, and in a relatively short space of time succeeded in doing so. Under the direction of Baron Haussmann who served as Prefect of the Seine, and with the technical expertness of M. Deschamps, large portions of the city were reconstructed.[1] Whole districts, with their narrow streets and congested tenements, were razed to the ground and built anew. Broad avenues and boulevards, converging in *places* or squares, were run through the central sections of Paris with no attempt at formal symmetry. Some of them went straight as an arrow; others were made to swing around in a semi-circle; still others were pushed across the face of the city as diagonals, thus securing a combination of geometric formality with many free departures from it. In the Haussmann era, moreover, the public utilities were replanned and rebuilt, notably the water, sewerage, and lighting systems, while large expenditures were made for new public buildings such as the

to river." "They call the pattern monotonous," he continued, "because they see it only on the map. . . . Criticism of our gridiron city is only a way people have of echoing the English, who like to have their streets like their education bills and franchise laws—never going straight at anything, but full of kinks and knots and *cul de sacs*. . . . What I meant to say was that the city fathers, when they endowed us with our geometrical streets and avenues, were wiser than their modern critics, because they built according to their material and their needs. They had on their hands an island constructed by the original Architect something on the model of Abraham Lincoln. They accordingly fitted the island with a suit of democratic clothes, built for use and comfort instead of cluttering it up with periwig circles and diagonal avenue sashes and frilled terraces. They recognized that the shortest way from the tip to the root of this tongue of land we call Manhattan was by straight lines. So they acted not only in conformity with the material at hand, but with the national spirit, which cuts straight across things. And because they were faithful to their material and their native spirit they were better artists than the man who would have us tack from Park Row to Harlem because that's the way it's done in London and Florence."

[1] Deschamps held the post of "Conservateur du plan de Paris." A plan showing the street reconstructions may be found in H. I. Trigg's, *Town Planning, Past, Present, and Possible* (London, 1909), p. 124.

Opera House and for national monuments. The total outlay was stupendous of course, but Haussmann showed the world how an old city could be made new. His motives were a curious duality of city planning and police; many of the street reconstructions were designed to facilitate the suppression of riots, if riots should come. The old, crooked passageways, which could be so easily barricaded, were enlarged and straightened to let in light, air,—and infantry. Haussmann's work was not altogether completed when the fall of the Second Empire intervened in 1870.

City Planning During the Past Half-Century.

The example of Paris had a profound effect upon the authorities of other great cities in all parts of the world. City planning and replanning received a great impetus by reason of Haussmann's work, and since 1870 the movement has been slowly but steadily gaining in momentum. Considerable portions of the larger Italian and German cities have been rebuilt along modern lines. London has put through some notable street reconstructions, including the King's Way. The cities of South America, notably Rio Janeiro and Buenos Ayres, reflect the foresight of skilful planning commissions. In the United States the progress of city planning has been less rapid, partly because the people as a whole are more tolerant of eyesores, and partly because Americans do not take enthusiastically to projects which extend over a long term of years. Another obstacle to the progress of replanning in American cities may be found in the relatively narrow powers which the municipal authorities possess and the extent to which even these narrow powers are divided among various officials. It has been difficult to undertake any considerable scheme of reconstruction without first making application to the legislature for special powers. Something may also be attributed to the lack of popular confidence in public officials and to the widespread feeling among business men that if these officials are given large sums of money to spend for public improvements they will waste a large fraction of it. City planning sometimes involves large contracts, and the taxpayers have been justifiably reluctant to entrust the work, with the huge patronage involved, to the customary type of municipal politician. In the United States, however, the amount of attention given to city planning is greater today than ever, and it seems likely to keep increasing.[1]

Reasons for Its Relatively Slow Progress in the United States.

[1] In 1922, for example, the Russell Sage Foundation agreed to finance the preparation of a "Plan of New York and its Environs," the work to be done

City Planning Boards in America.

Until about fifteen years ago there were, in American cities, no central planning authorities. Each municipal department, in the absence of a unifying agency, did its work independently and with little reference to what others were doing. The result was a frequent clashing of plans and purposes. The intelligent replanning of a public highway, for example, requires co-operation between the water, sewerage, lighting, and street authorities, not to speak of the public utility companies which use the surface and subsurface. But such co-operation was frequently lacking and its absence put the cities to a largely increased expense. Recognition of the need for a clearing-house of plans and effort has led to the establishment of city planning boards, usually with powers of an advisory character only. These boards are ordinarily composed of five or more appointive members who serve without pay. Occasionally, however, the board is made up of various heads of city departments, *ex-officio*, with some laymen added.[1]

Gathering the Data for Intelligent Planning.

All planning, of whatever sort, should obviously be based upon careful compilations of facts. Every city, indeed every section of a city, has its own peculiarities, problems, needs, and individuality. It is only by a careful study of these local conditions that suitable plans can be devised. In other words good planning must be preceded by a survey or a series of surveys such as will provide a wide range of accurate data. The city planning authorities do not have a clean slate to start with; they must conform to existing conditions and hence must first of all determine what these conditions are. They must have accurate topographical maps showing the present layout of streets, the location of all water, sewer, and gas mains, and every physical feature which may be affected by their operations. They require also full information concerning the present distribution of population, its probable increase and drift, the nature and extent of the city's industries, the housing of the people, their means of transportation, their recreation facilities and much similar data. This is obtained by making what is commonly known as a survey.[2] They must study the existing legal powers

by a corps of city planning experts. This is the most comprehensive regional undertaking yet set afoot in the United States.

[1] Many further details may be found in F. B. Williams, *The Law of City Planning* (New York, 1922), pp. 535-606.

[2] There is a discussion of this matter in the article on "Modern City

of the city, its financial resources and its administrative machinery. One might suppose that all this data would be already to hand in the archives at the city hall, but such is practically never the case. The city's maps and statistics are usually incomplete, unreliable, or obsolete in varying degrees. So, when city planning boards are established, their first task, as a rule, is to go out and gather the essential information for themselves. There are maps in the city engineer's office, plenty of them, but they are not always kept up to date. The various city departments, moreover, have a good deal of data concerning their own operations; but rarely has it been compiled on any uniform basis. American planning boards have had to spend much time in doing what cities should have done for themselves years ago. Making maps and gathering statistics are tedious jobs involving considerable expense. The regular city officials, and the people as well, sometimes become impatient because so much time and money is expended in these preliminaries. They want to see the plans put upon blue-prints and work begun at once.

What This Data Should Include.

When a thorough survey of local conditions is undertaken it often results in some rude surprises. General impressions, based upon casual observation, are notoriously unreliable, yet they are frequently stamped upon the public mind with all the fixity of demonstrable truths. Take such matters as density of population or volume of traffic, for example, or the progress of land values, or the drift of industries. Current opinion on such things is often found to be at variance with the facts when the facts are assembled. Ask any group of public officials to designate, from their own observation, the section of the city in which there is the largest population per acre of ground and the chances are that they will answer wide of the mark. Find the point at which, by common popular opinion, the street traffic is believed to be most congested; an actual count of vehicles will almost invariably prove that the maximum congestion is not there but somewhere else. So it is with land values, transportation facilities, and the other basic data of replanning. Only by a careful study of all the facts can one get a safe foundation on which to build.

The Effect of This Data Upon Planning.

When the survey has been completed, the next step is to analyze and interpret the data, a task which calls for professional

The Interpretation of the Data.

Planning" by Thomas Adams, in the *National Municipal Review*, Vol. XI, pp. 157-177 (June, 1922).

skill and strict impartiality. To interpret data correctly is much more difficult than to gather it. Then it becomes necessary to make some forecasts, especially in a rapidly growing community, and this is where the city planning authorities incur the risk of going wrong, no matter how careful they may be. Such risk cannot be avoided, however, because forecasting is the very essence of the city planner's work. Planning requires foresight as well as hindsight. It is trite to say that the most urgent problems must be tackled first, but relative urgency is in most cases a matter of opinion. Everyone has his own views as to what public improvement is most imperatively needed. One real estate expert will tell you that an enlargement of street facilities in a certain section of the city is absolutely imperative; another will assure you that business in that locality has reached its zenith and is about to drift in another direction, thus making an enlargement unnecessary. Real estate men who devote all their skill, intelligence, and proverbial energy to such matters ought to know whereof they speak, but they do not. If they did they would all be opulent beyond measure, for there is no surer way of making a fortune than by buying property in regions where business is going to grow. So city planners will sometimes plan wrongly. The best that can be said of their work is that, by dint of careful surveys and the exercise of caution, these mistakes are likely to be less frequent and less serious than they would be if there were no planning at all.

**The Dynamic Nature of a City Plan.**

In any event city planning is not a cut-and-dried, once-for-all, enterprise. Whatever plan may be evolved for a whole community, or for any part of it, is always tentative,—subject to amendment and modification whenever the need arises. The right sort of plan is a living organism, like the city itself, an ever-changing aggregation of ideas or projects. The emphasis may be placed on one feature of it today, on another feature tomorrow. Nothing could be more harmful, or more detrimental to a community's appropriate expansion, than an attempt to make the city plan an end rather than a means. The function of a city planning board is not merely to gather data, to prepare a plan, and to stand guard over it, but to keep constantly changing, adapting, and moulding every phase of it. For this reason its members ought not to be faddists or doctrinaires, but men and women of imagination and progressive temperament.

The Five Chief Phases of City Planning.

The operations of city planning may be grouped under five main heads. The first concerns the means of circulation; it includes the distribution and arrangement of facilities for transportation by water, by steam railroads, by surface and rapid transit street railways, and by vehicles using the streets. The second relates to the provision of appropriate and convenient locations for parks, playgrounds, public buildings, and other public property of every type. The third has to do with the control of private property by legal regulation, including such matters as zoning and building restrictions. The fourth may be called the sociological branch of city planning and includes the devising of such measures, not related to the physical plan of the community, as may best conduce to the promotion of the public health, convenience, and welfare. Finally, and not least important, is the planning of ways and means—the elaboration of arrangements for defraying the cost which all physical reconstruction involves.

Planning the Means of Circulation.

The physical aspects of city planning are not the only important ones, as has been said; but they are fundamental and usually the first to receive attention. This is because physical inconveniences and discomforts due to congestion and bad traffic conditions evoke the earliest and loudest cry for alleviation. Traffic congestion, more than anything else, has directed the minds of cities to the need for planning and replanning. The natural growth of a city is radical, pushing out uniformly from a common center; but topographical obstacles such as a large body of water or a high elevation may bar its course in one or more directions. In any case there will always be a convergence of traffic towards the center, or towards various centers, during certain hours. There will be a reverse flow at other times. These peak-loads place a severe strain upon the "means of circulation," a term which includes the suburban steam railways, the street railway service, and the streets which carry the ordinary vehicular traffic.[1] The relative ease or difficulty with which a city's traffic can be handled depends upon the proper planning and articulation of these various agencies.

Steam Railroads and Terminals.

The steam railroads were brought into the cities at a time when most of the latter were relatively small. They were re-

[1] In some European cities, notably in London and Paris, a considerable amount of local passenger traffic is carried by river steamers, but this form of transportation is too slow for American communities.

garded as a means of travel from other distant communities.[1] Each road made its entry at a different time, obtaining its own individual right-of-way and its own separate terminal. Then, in due course, came the growth of traffic from the suburban areas, commuter traffic as it is called. With this development the separate terminals proved to be, as they still are, a serious inconvenience. In the earliest stages of city growth it would have been easy and cheap to establish a union terminal; but in most large communities the opportunity was neglected. Today, with the rise in land values, the cost of rearranging the terminal system in any large city is almost prohibitive.[2] Inter-terminal transportation of freight often involves teaming through crowded thoroughfares and is therefore both slow and expensive. Moving a ton of freight a single mile through the city sometimes costs more than carrying it a hundred miles by rail. The same is true of passenger traffic. Railroads will carry a passenger for three cents a mile; but the taxicab which takes him from one terminal to another will charge him at least fifteen times as much.

The Street Railway Plan.

The street railway has been one of the chief factors in the promotion of suburban areas. The surface trolley came into the field, however, after the width of most main thoroughfares had been fixed and hence added seriously to downtown traffic congestion. Street railway routes have not been determined, as a rule, by the need for covering the entire area in the most effective way but rather by placing the tracks where their presence will be least objectionable to all concerned. Wherever a careful study of the surface transportation system is made, therefore, the experts almost always find that the system is badly adjusted to the needs of those who patronize it. Traffic congestion upon the streets used by the surface lines results in slow service, hence the demand for rapid transit by means of elevated or subway lines. It is here, one would think, that careful planning might secure the avoidance of future difficulties; but much rapid transit construction has been done without due thought for the morrow.

[1] In the early days of steam railroads it was assumed that they would be used for passenger traffic only. It was believed that in carrying bulky merchandise they would be unable to compete with canal boats and wagons.

[2] Considerable inconvenience and expense to shippers has also arisen from the failure to co-ordinate the water and rail facilities. The connection between the railroads and the docks is often inadequate and roundabout.

In any event the plan of rapid transit is conditioned in part at least by the street layout, for both elevated and subway structures follow the streets whenever they can.[1] Every improvement in the mechanism of transportation has had to be fitted into the ruts already worn down by the original planning of the streets.

The Street Plan.

In preparing for the growth of a city, or a new suburb, the obvious first step is to lay out a plan of streets and building lots. This is not only the first but in the long run the most important single step in the physical development of any new community. But in spite of its great importance this initial layout has been determined, as a rule, by private promoters with an eye to the immediate and profitable sale of building lots. It is misleading to say that most American cities have grown up unplanned; large portions of them have been thoroughly planned—by real estate promoters in their own interest.[2] The almost universal adoption of the trellis or checkerboard plan by American cities has not been entirely due to the early examples set by Philadelphia and New York. The force of example would not have been sufficiently potent but for the fact that it coincided precisely with the interests of the real estate promoter. For this plan is of all plans the most economical in the amount of land which must be gratuitously dedicated to public use and the most generous in the amount which it reserves for private sale. It leaves from seventy to seventy-five per cent of the whole area available for marketing to private buyers.

Merits and Defects of the Gridiron Layout.

It is not to be assumed, however, that this rectangular plan of street layout has nothing but initial economy in its favor. It is simple and symmetrical, permitting a system of street-and-house numbering which facilitates the finding of one's way about. It provides building lots of regular and convenient shape and size—practically each of them a perfect oblong. In both business and residential sections this is the most readily usable type of building lot. There is a common impression that the rectangular street plan, with its right-angle intersections, accentuates traffic congestion, but this impression is not well founded. When two streams of traffic have to intersect one another they can do

[1] This is done for the sake of economy. Subways which go under private property give rise to claims for damages.

[2] As *Main Street* puts the matter, "It must have taken genius to make them so scrawny."

so more easily, and more safely, at right angles than at angles of any other sort. The chief defect of the rectangular plan is æsthetic. It affords an almost irresistible temptation to architectural uniformity. Visitors from abroad often comment upon the monotonous and commonplace character of the buildings which abut upon the streets of American cities, in business and residential streets alike. Every street looks like its neighbor—the same width, the same rigid straightness, the same asphalt pavement, the same lines of clustered lights, the same rows of nearly uniform buildings on both sides, every building set square to the sidewalk or at a uniform distance from it.[1] This is almost necessarily the case when all building lots are of the same shape and size, thus affording very little scope for architectural versatility. The complaint is also made that rigid adherence to the rectangular plan necessitates a longer route in getting from place to place. To some extent this is true; diagonal thoroughfares help to shorten distances, as L'Enfant appreciated when he sprinkled them over his Washington plan. Their value in this respect, however, is easy to over-estimate. Traffic surveys have shown that vehicles do not for the most part follow the shortest routes available. Traffic is influenced by the character of the street pavements, by the street gradients, by the presence or absence of congestion, and to some extent by mere force of habit. Very few drivers of vehicles in the cities figure out the shortest route and follow it.

**Merits and Defects of the Radial Plan.**

The other general type of street plan, commonly known as the radial type, has been popular in Europe, especially since the momentum given to it by the Haussmann reconstructions in Paris. It somewhat distantly resembles a spider's web. Main avenues radiate from a center; at appropriate intervals there are streets which form concentric circles, while smaller thoroughfares, usually straight, make connections here and there. In this way right-angled intersections are for the most part avoided; the building lots assume a variety of shapes and sizes. To some extent this radial arrangement has been utilized in the planning of American suburban areas and there is something to be said for it where the physical configuration of the land is in keep-

[1] For an illustration, see the chapter on "The Uniformity of American Life" in James Bryce's *American Commonwealth* (2 vols., New York, 1893), Vol. II, pp. 878-890.

ing. But the radial idea may easily be carried too far. Circular, crooked, and winding streets may make a section of a city more picturesque and more pleasing to the eye; but the real test of a well-planned street is its usefulness. The feudal thoroughfare is being sadly overworked in some garden cities and country club suburbs. It has a place in the city plan when the topography justifies it, as it often does, but not when it is dragged into a street plan with the sole object of affording a conjectural beautification. Utility and attractiveness can often be combined; but the chief function of a city street, which is to serve as a means of circulation, should never be lost to view.

In the older sections of larger cities the day of general replanning has virtually gone by. The cost is prohibitive. All that can be done is to widen a street here and there, or, in some fortunate situations, to provide a new thoroughfare by acquiring private property which has not been too expensively built upon. For the most part the downtown streets of American cities must stay as they are. Congestion can be relieved to some extent by the removal of car-tracks and by the better regulation of traffic. To some extent, also, conditions can be improved by a better adjustment of the space allotted to roadway and sidewalk respectively. On many downtown streets the sidewalk space could be narrowed and yet render adequate service to pedestrians if it were only kept free from poles, posts, bay windows, and other obstructions.

Planning the Location of Public Property.

The second phase of city planning has to do with public grounds and buildings. The need for public parks, squares, and playgrounds is now everywhere recognized; but unless provision is made for them by planning at the proper time they are likely to be few and badly placed. Forty years ago there were no public athletic fields in any American city; today they are being established everywhere.[1] The appropriate location of public buildings is also a matter of high importance, more so than is generally appreciated. This is a phase of community planning on which the Greeks and Romans bestowed a great deal of attention, more than they gave to the laying out of streets or to the housing of the people. Churches, abbeys, castles, and guildhalls also dominated the plan of the mediæval town. But the modern city has not, until a few generations ago, realized

[1] See Chap. XXVIII.

the value of combining utility with attractiveness in the location of public structures.

Types of Public Buildings:

From the standpoint of suitable location the public buildings of a city may be divided into three classes. First, there are those public buildings which ought to be so placed that they may be easily reached from every part of the community. This class of buildings includes the postoffice, the city hall, the auditorium, the court house, and the public library. They should be at or near the center of accessibility, which is not necessarily the center of population. It is the spot which the largest number of people, using the existing means of circulation, can most easily reach. In a few cities these buildings, or most of them, have been brought together in a civic center; but as a rule they are scattered all over the community, their sites having been determined by political influence or by the whims of the moment. The desirability of bringing them together, both as a matter of good planning and for the public convenience, is not difficult to realize.[1]

1. Those Which Must Have a Central Location.

2. Buildings Which Must be Scattered.

Second, there are many public buildings which must be set in different parts of the city and not at any single center. This includes the fire and police stations, the elementary schools, and the branch libraries. To render proper service these buildings must be scattered, but this does not mean that their location should be left to accident. They have often been located at inconvenient points because political influence rather than the public interest has settled the matter. When a prominent politician has land to sell at a fancy price the city is often a good customer. Not a few American school buildings are monuments to some ward leader's pressure upon the powers that be. There is no good reason why police and fire stations should not be housed, as a rule, under the same roof. There is no good reason why the school, the playground and the branch library should not be placed upon the same plot of ground, but rarely are they within range of one another. Haphazard location and slipshod construction have wastefully devoured a considerable part of the generous sums which American cities have appropriated for their public buildings.

Third, there are certain public buildings which, from the nature of their use, require special locations. Public baths, for example,

[1] Several civic centers are now well under way in the United States, for example, in Cleveland, in Denver, and in San Francisco.

go to the water's edge, wherever it is. The hospital should be situated outside the zone of heavy traffic and continuous noise. The city prison, the poorhouse, the garbage disposal plant, and the other waifs among public buildings—nobody wants their company. They are not welcome in any neighborhood, yet they must be placed somewhere. Timely planning would help to solve this problem by securing convenient and spacious tracts of land for such institutions before all the logical points are occupied; but most American cities have given no thought to such questions until driven to it by conditions of extreme urgency. The public officials and the newspapers will talk boastingly of the way in which the community is certain to grow within the next ten or twenty years, but not a hand will be turned to plan the expansion in public services which such growth would entail.

3. Buildings Which Require Special Locations.

When land is needed for any public improvement it may be obtained by the city in any one of three ways. Land for new streets is usually obtained by dedication, that is to say the promoters of land-sales in a new subdivision dedicate the street space to the city. They must persuade the city authorities to accept this dedication of street space, otherwise they cannot sell building lots, for no one in his senses will buy a building lot unless it has access to some public thoroughfare. Some cities require that the promoters of new real estate subdivisions shall not only dedicate a reasonable amount of street space for public use but shall actually construct the street for acceptance by the community. When a street has been formally accepted its maintenance becomes a public charge.

The Acquisition of Land for Public Use:

(*a*) By Dedication.

In older sections of the community the construction of a new street, or the widening of an old one, usually involves expense for the acquisition of land. The land needed for parks, playgrounds, and for sites of public buildings must also be acquired, as a rule, by paying for it, although public-spirited citizens sometimes donate land for such purposes. When the city needs to acquire land it may do so by purchase in the open market, making such bargains as it can with individual owners. More commonly, however, the city authorities find that some of the private owners decline to sell except at exorbitant prices. In such cases the city usually offers a price fixed by its own experts and if this is not accepted by the private owner the municipal authorities proceed

(*b*) By Purchase.

to "condemn" the land, that is, to take it by right of eminent domain.

(*c*) By Condemnation.

Every city, whether in Europe or America, has the legal right to take private property for public use. In England and France there is no constitutional requirement that such private property shall be paid for; but fair compensation is always given and in case of controversy over its amount the issue is decided by the courts. The constitution of the United States and the constitution of the new German Republic expressly require, in almost identical words, that private property shall not be taken for public use without just compensation. In all four countries there are certain preliminaries to be gone through before the land can be taken, but these are more elaborate in American cities than elsewhere.[1]

How Land is Acquired by Condemnation Proceedings.

The American practice differs from state to state, but ordinarily it is essential that notice of the city's intention be given to the owners concerned. Then a public hearing is held at which protests may be heard. At the close of this hearing, if the city authorities decide to go ahead, a plan and notice of the land-takings are filed in the place provided by law (usually the registry of deeds), whereupon the city becomes the legal owner. The former owner, if he still declines the price offered by the city, must now enter a suit for damages. Real estate experts are brought in to testify on both sides, the lawyers make their arguments, and the amount which will be obtained depends upon the judgment of the court.

Limitations on Land-Takings in Europe and in America.

European cities are given a wide latitude in the matter of land-takings, but in the United States the municipal authorities are not permitted to deprive the private owner of his land except in cases where such property is needed for some purpose which is public in its nature. They are not permitted, for example, to take land for re-sale to private builders. Whether the announced purpose is a *public purpose* or not will be decided, in the last analysis, by the courts, but the courts have been inclined to give the city the benefit of any doubt in such controversies. To take

[1] The procedure in France is described in Raymond Robin, *Manual de l'expropriation pour cause d'utilité publique* (Paris, 1917, with supplement, 1919); in England in Thomas Waghorn, *The Law relating to the Compulsory Taking of Land . . . by Local Authorities* (London, 1906); and in America in John Lewis' *Law of Eminent Domain* (3d edition, 2 vols., Chicago, 1909).

land for streets, parks, public-building sites, bridgeheads, and so on is clearly to take for a public purpose. City planning encounters no legal obstacles on this score.

Excess Condemnation.

There are times, however, when it becomes very desirable for the city to secure, in connection with a public improvement, more land than is actually needed for the immediate purpose. For example, if land for a new city hall is acquired in a congested district it may be desirable that the city should take some unsightly property near by in order to have a new structure set in favorable surroundings. It may also be found desirable to re-sell this land under the restriction that more attractive buildings shall be placed on it. Or, to take a more common illustration. When a city widens a street there may be various remnants of building land left on either side of the widened thoroughfare, the widening having cut into the original lots. These remnants are unsuitable for rebuilding purposes unless they can be consolidated. Why not permit the city to take the whole tract and, after the street has been widened, re-sell what is left in lots of appropriate size and under such restrictions as will ensure the future attractiveness of the highway?

What it Means.

Its Progress in America.

The answer is that while this is the procedure regularly followed in Europe it cannot be followed in many American cities because constitutions, laws, and courts stand in the way. During the past twenty years, however, several states have amended their constitutions and laws so as to permit this "excess condemnation" as it is called.[1] Within reasonable limits the exercise of the right facilitates the replanning of congested districts and affords the city an opportunity to recover part of the cost; but there is always a danger that the right of excess condemnation may be abused. If cities begin the practice of acquiring wide swaths of land in the hope that they can sell portions of it at enhanced prices they are likely to be disillusioned. Syndicates of politicians would not permit their opportunities to pass neglected, and the city would soon find itself the owner of land that nobody wants. There are few ways in which large sums of money can be dissipated more quickly than in real estate speculation. The governing authorities of the average American city are not equipped

[1] See R. E. Cushman, *Excess Condemnation* (New York, 1917); and the chapter on the subject in F. B. Williams, *Law of City Planning* (New York, 1922), pp. 128-163.

by skill or experience for the business of buying land cheaply and selling it at an advance. They manage to lose money on many things that are far less difficult to handle.

City Planning in Relation to Private Property.

City planning does not confine its scope to public property alone. It deals also with the regulation of private property to the end that the public interest may not be infringed.[1] No matter what the city authorities may do in the way of planning streets and public buildings, the outward attractiveness of a community will necessarily depend upon the good taste and civic pride of its citizens. Within reasonable bounds a man can erect anything he pleases upon his own land. He may build something which is an adornment or, on the other hand, something which is an eyesore to the neighborhood. His neighbors have no legal remedy. No penalties are provided for the indecent exposure of an individual's bad architectural taste. He may keep his grounds and dwelling spick and span, or he may let them go into ramshackle, the house unpainted, the lawn in weeds, and neglect written all over the place. No matter what the authorities may do or leave undone, a city will be what the business men and householders make it. The attractiveness of most European cities is as much due to good taste in private construction as to the layout of streets or the architecture of public structures. It is useless for men and women to clamor for fine parks, monumental public buildings, and brilliantly-lighted streets if they do not obey the precept that civic pride, like charity, should begin its exemplifications at home.

Ways in Which Private Construction May Be Controlled.

There are three ways in which public influence may be exerted upon the development of private property. First, the nature of the street layout, as has been shown, will control the configuration of blocks and lots, and by so doing will influence architectural development for good or ill. It is this way that the cities of Europe encourage variety in private structures. Second, the development of private holdings can be influenced by using a graded property tax. By taxing some forms of property more heavily than others, and by exempting certain forms of property from taxation altogether, it is possible to exercise a large degree of control over the course of building operations. In some European cities, particularly in Frankfort-on-the-Main, this method

[1] See the chapter on "Public Control of Private Real Estate" in John Nolen, *City Planning* (New York, 1916), pp. 48-87.

has been employed for many years with gratifying results. In America it has been very little used, chiefly because most of the state constitutions contain provisions requiring all property to be taxed at a uniform rate.[1]

Legal Restrictions.

The most direct and effective way of controlling the development of private property, however, is by means of building codes, housing regulations, factory laws, zoning ordinances, and other manifestations of the city's police power. Through one or another of these various channels it is possible to restrict the height of buildings in the business district, to provide set-backs in the residential areas, to control the segregation of industries, and to improve the construction of tenement houses. In the cities of Continental Europe the municipal authorities have found it practicable to exercise control over the type of architecture used in the construction of private buildings; in Paris, for example, a board of architectural censors is empowered to scrutinize all applications for building permits and to veto any plan which seems to be out of keeping with its immediate surroundings. In the United States this cannot be done. The police power of the city can be used to prevent the erection of private buildings which are unsafe, or unsanitary, or in any other respect a menace to the public safety, health or morals; but it does not extend to the control of architectural design. To limit a citizen's use of his own property, except in so far as the safety, health, morals and well-being of the community requires, is to deprive him of his property without due process of law and hence is forbidden by the federal constitution.

Zoning.

The practice of zoning a city into various districts with restrictions applying to each has long been in vogue abroad. More than thirty years ago the famous *Les Adickes* in Frankfort divided the city into various sections, industrial, mercantile,

[1] The practice of granting exemption from taxes during a designated term of years, as a means of securing new industries, has been common in American cities, but it has often been abused and is now in many cases forbidden. Exemptions designed to encourage the starting of new industries are not necessarily objectionable, but the practice of using exemption from taxes as a means of drawing industries away from other cities is highly so. There has been much discussion, in recent years, concerning the desirability of temporarily exempting from taxation all newly constructed dwellings in communities where the housing problem is acute. New York City's experience in this direction has been interesting and significant. See Chap. XXXVI.

residential, and mixed.[1] The successful working of this plan soon led to its adoption elsewhere, and in recent years its underlying principles have been gaining acceptance in America. The purpose of zoning is to set apart various sections of the city for designated uses, applying different regulations to each. Certain areas in the city, being particularly adapted for industrial and mercantile development, are reserved for such use exclusively. Restrictions as to the height, bulk, and construction of buildings are framed in keeping with this action. Other zones are designated as residential in character and the buildings therein erected must conform to a different set of regulations. Some cities have gone so far as to confine certain residential districts to one-family houses, segregating apartment buildings and tenements into another zone. In a fully-zoned city there may be, accordingly, four or five types of segregation—industrial, industrial-mercantile, residential in the wider sense (including apartment houses), and residential with a restriction to single dwellings. The rules relating to maximum height, bulk, type of construction, and setback from the street are differentiated for each zone.[2]

Its Purpose.

Its Advantages.

The zoning system creates, protects, and accentuates the individuality of each district. It greatly simplifies problems of street construction and lighting, as well as those of policing, and of protecting property from fire. Adequate provision for schools and playgrounds is also made easier when industrial, mercantile, and residence areas are segregated. A section which is half residential and half industrial always presents the most perplexing of administrative problems. Zoning also gives stability to land values by preventing the intrusion of one type of building into the territory of others. The erection of a factory, a gas tank, a public garage, or some other objectionable structure in an essentially residential area is invariably a prelude to falling values and sometimes to the ultimate blighting of the immediate neighborhood.

Zoning has been criticised as undemocratic. Its critics assert that the policy tends to segregate the well-to-do in one part of

[1] The zoning idea was put forth fifty years ago by the German city planner, Baumeister; it was first applied in Frankfort in 1884. The *Lex Adickes*, which greatly extended the plan, was adopted in 1891. The English Town Planning Act of 1909 incorporated its principles.

[2] A clear and comprehensive explanation of the whole matter may be found in E. M. Bassett's *Zoning*, issued as a supplement to the *National Municipal Review*, Vol. IX, pp. 315-341 (May, 1920).

the city and the industrial workers in another. This, in the long run, is inevitable in any large community, but is it an undesirable arrangement provided the sections occupied by the workers are as attractive as the others? That is what zoning attempts to make them. By keeping industries out of all residential regions it shows equal favor to all. People of all classes prefer to live in homogeneous neighborhoods, and nothing is gained by mixing different elements against their own preference. Zoning aims to secure a measure of orderliness in the city. The individual insists upon orderliness in his home, shop, or factory; why should he object to it in his community? In a word the purpose of zoning is to put all the available land to its most appropriate uses, and to preserve it for such uses exclusively.[1]

Is Zoning Objectionable in That It Segregates the Classes?

One of the most persistent offenders against the good taste of the American community is the flamboyant billboard which greets the eye at every turn. From almost every vacant lot, from the roofs of buildings, from walls, and from fences these monstrosities of wood and paper cry out their wares to the passer-by. Numerous cities, finding their parks, boulevards, and residential streets defaced by these billboards, have endeavored to find some way of abating the nuisance. In Europe they have been tolerably successful in their efforts to keep this form of advertising within designated bounds; but in the United States there are serious legal obstacles in the way. Billboards cannot be suppressed or restrained because they happen to be unsightly. Mere unsightliness does not constitute a sound reason for depriving any man of his property—at least the courts have thus far held that it does not. Billboards may, however, be subjected to reasonable restriction in the interest of the public safety or public morals; they may be forbidden in residential districts unless certain conditions are met; and they may be subjected to reasonable taxation. But the taxing power must not be used as a roundabout method of suppressing them. There are some indications that the courts are gradually becoming disposed to take a less lenient attitude towards the billboards; before many years they may concede

The Regulation of Billboards.

[1] For a further discussion see Robert H. Whitten, "The Zoning of Residence Sections," in *Proceedings of the Tenth National Conference on City Planning* (1918), pp. 34-46, and Herbert S. Swan, "Industrial Zoning in Practice," in *Ibid.*, pp. 47-71.

the point that things which outrage the eye are nuisances as well as things which offend the ears or the nose. The suppression of noises and smells, though usually upheld on the theory of "protecting the public health," has in fact very little to do with health. The shrieking whistle and the oderiferous slaughter-house are suppressed because they interfere with the community's peace of mind and convenience—that is all. Therein they differ from the flaming billboard in measure only.[1]

Sociological Aspects of City Planning.

There is a fourth phase of city planning, which, despite its great importance, has thus far received altogether too little attention. Some city planners maintain that it does not come within their field at all. It may be called, for the want of a better name, the sociological branch of the subject. It is sometimes argued that since the ultimate purpose of city planning is to promote the social welfare, no real beginning ought to be made on a comprehensive plan until the social needs of the community have been studied and determined; in other words, that the *social* survey should precede the *physical*. No matter how well-planned the means of circulation and public buildings may be, no matter how effectively the development of private property may be regulated, a community cannot claim to be well-planned in the broader sense of the term unless an adequate amount of attention has been bestowed upon the social and economic environment in which its people live. The preservation of the home and of home life, the encouragement of wholesome recreation, the general diffusion of education, the improvement of relations between employers and employed, the development of an active interest in public affairs—all these things are essential features in any comprehensive plan of civic betterment. Laws and ordinances need to be straightened as well as streets. Oppression, injustice, and misery may be rampant in a community whose avenues and public buildings are pointed to with justifiable satisfaction. Human happiness does not altogether depend on physical convenience. Even a garden city may be saturated with discontent.

[1] On the subject matter of the foregoing paragraph, reference should be made to three important judicial decisions: St. Louis Gunning Advertising Co. *v.* City of St. Louis, 235 *Missouri*, 99 (1911); Thomas Cusack Co. *v.* Chicago, *108 Northeastern Reporter, 340* (1914); and Churchill *v.* Collector of Internal Revenue, *14 Official Gazette, P. I., 383* (1916). There is a good chapter on the subject in H. L. McBain, *American City Progress and the Law* (New York, 1918), pp. 58-91.

The ideal of the city beautiful gets little response from the man who is walking its streets, out of work, not knowing where his next meal is to come from. So city planning must deal with people as well as with things, with the daily life of the people, and particularly with the problem of promoting social and economic justice. How it may best do this is a large subject. Whole books have been written about it and innumerable methods suggested.[1]

Planning the Finances.

The financial aspects of city planning are often relegated to a postscript; but they ought not to be, for no project of physical or social reconstruction can be carried into effect without money. Indeed the chief problem, very often, is the problem of finding the money. Tax limits, debt limits, and other legal obstacles stand in the way. Cities usually pay the cost of physical reconstruction out of the general tax-levy, or by laying special assessments, or by borrowing, or by a combination of all three methods. But as matters now stand in most American cities it is often impracticable to undertake any large civic improvement without first clearing the way by the acquisition of new financial powers. City planning is not likely to make proper headway until there is some reconstruction of municipal finance. New sources of revenue must be found, tax limits lifted, debt limits raised, restrictions upon the levy of special assessments removed.[2] No well-managed business concern ever embarks upon schemes of expansion or reorganization without first making sure that the money is in sight. Cities must do the same; financial planning is an essential preliminary. And it is one of the most difficult phases of the subject, which may be the reason why most writers on city planning ignore it.

Getting Results in City Planning:

1. What to Do.

The experience of American cities during the past twenty years would seem to indicate that, in order to get definite results from planning projects, certain things must be done and certain other things avoided. By a sustained campaign of education through the newspapers, through the distribution of pamphlets, through the motion picture houses, and through lessons in the public schools the essential features of the plan must be stamped on the minds of the whole people. Chicago's publicity methods have been more logical, more persistent, more systematic, and hence

[1] Some of them are discussed in Chapters XXXIII and XXXVII.

[2] For a discussion of new sources of city revenue, see Chap. XLIII.

more successful than those of any other large city.[1] By contrast it can easily be shown that inadequate promotion and publicity have been chiefly responsible for the failure of city planners to get favorable action in a dozen instances where the task ought not to have been so difficult as in Chicago.

2. What to Avoid.

Two things are particularly to be avoided in connection with city planning. The first is an alliance with the real estate interests, or, indeed, with any single class in the community. The voters will not rally to the support of any plan in which they detect the flavor of private avarice. The second thing to be avoided is over-ambition. Too extensive a project is apt to fail by reason of its own bulk. The people become alarmed at the expense involved. It is far better to be content with a little at a time.

Ideals and Obstacles.

From the nature of things the city planner's ideals are always bound to be far in advance of his achievements. His chariot is hitched to a star. The Philistines call him a dreamer, a visionary. His imagination romps over miles, while civic reconstruction proceeds by inches. With pencil and alidade he pictures the city as he would like it to be, but which it cannot be for generations to come. Paper projects are easy to outline, but transforming them into realities is a different matter. No sensible man or woman, however, expects to recreate the American city overnight. It is merely a question of keeping the current of city progress headed in the right direction and eventually the goal will be reached. It is often made a reproach to the city planning enthusiasts that they start surveys, send out questionnaires, make elaborate projects, prepare voluminous reports with fine drawings and pictures, hold conferences, deliver speeches at board of trade banquets, and do everything but get the job done. But even if this is true, it does not represent a waste of energy; it is part of that long campaign of education which must be finished before the people can be brought to appreciate what city planning means.

[1] John Nolen, "Getting Action in City Planning, Right and Wrong Methods" in *Proceedings* of the Thirteenth Annual Conference on City Planning (1921).

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1921). There is also a comprehensive discussion of the latter topic in F. B. Williams, *The Law of City Planning and Zoning* (New York, 1922), with references on zoning (pp. 615-618). One should not omit reference to the final *Report of the New York Commission on Building Districts and Restrictions* (New York, 1916) and to the reports on zoning issued by Cleveland, Detroit, St. Louis, and other cities during recent years.

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# CHAPTER XXVII

## STREETS

The streets of the city have been likened to the bones of the human body in that they determine physical frame and contour. They have also been called the city's arteries, the channels through which the life blood of trade and traffic pulsates. Both analogies are suggestive. The street plan of the city determines the configuration of its growth and development, including the general uniformity or variety of private structures. The street itself is a far more vital channel of circulation than one would assume from a glance at its surface. It is not only the pathway of pedestrian and vehicular traffic but the sluiceway through which all the public utilities are carried—subways, water-mains, sewer pipes, gas pipes, wire conduits and the rest. Nearly all the physical aspects of municipal administration are in some way or other related to the public thoroughfares, and it is for this reason that the fundamental importance of street planning, street construction, and street maintenance can hardly be exaggerated. In the modern city one-third or more of all the land area is dedicated to street use.

The Importance of the Urban Highways.

A history of highways would be nothing less than a history of civilization. By its roads the progress of a nation can be judged. Primitive man had no roads and no use for them. His aim was to keep away from tribes of other men; he had no desire to facilitate contact with strangers. But as communities grew and men felt safer, paths of communication were opened; the paths became roadways, and with the growth of urban settlements the roadways became city streets. Even in cities, however, the streets were not, at the outset, arteries of trade and traffic. They were narrow, often impassable to vehicles, and served chiefly as a means of getting into and out of the shops and houses. While the Athenians built some traffic thoroughfares, notably to the Piræus, the Romans were the first to embark upon the systematic

Early Development of Streets.

program of overland trade-route construction. Their motives were both commercial and military, the latter often predominating. Passable roads facilitated the rapid movement and mobilization of troops. But the Romans did better work in their provinces than at home. Wide and well-planned thoroughfares were built up and down the Italian peninsula, through Gaul, Spain and Britain at a time when the streets of the Eternal City remained for the most part inadequate, congested, badly paved, and ill-kept. Not more than ten per cent of the city's area was allotted for streets, as compared with nearly three times as much in the Rome of today.

The Romans as Road-Builders.

The hackneyed boast that the Romans taught the world the value of highways, and how to build them, needs a good deal of qualification. Splendid examples of road construction were given to Western Europe in the days of the Cæsars, but the lessons inculcated by Rome in this as in other fields of public administration were entirely lost upon the world for more than ten centuries. The roads and streets of mediæval Europe could hardly have been worse designed, worse constructed, or worse kept, if Rome had never existed. The Romans, even before the beginning of the Christian era, built highways of solid masonry, laid with cement mortar. No such roads, or anything akin to them, were constructed in any part of Europe during the long interval between the fall of the Roman Empire and the middle of the sixteenth century. In 1556 a roadway of broken stone, with a surface fifteen feet in width, was built from Paris to Orleans, but the precedent was not followed elsewhere. Cobblestone pavements began to appear in some of the larger cities about this time; macadam construction did not come in until the first quarter of the nineteenth century. The science of roadmaking and street paving, as we understand it today, is almost wholly the product of the last hundred years. It derives practically nothing from the Greeks, Romans, or any other people of pre-modern times. The materials of modern street construction—macadam, telford, asphalt, bitulithic, wood blocks, concrete,—have all come into use since 1800 and most of them since 1850. The methods of construction, moreover, are almost entirely the product of the same short period. Streets are as old as the oldest community; but street-making as an art is the product of the nineteenth and twentieth centuries.

Mediæval Thoroughfares.

Modern Road-Making.

The Varied Functions of a City Street.

What makes a good street? The test of a good street is the efficiency with which it fulfils the functions required of it. These functions differ from one street to another, or, to put it more accurately, the emphasis placed upon the various functions may, and often does, differ. The first function of a street is to afford the light, air, and access needed by abutting buildings; the second is to carry traffic on its surface. But every street also renders other services, which, although they are called secondary, are nevertheless important, such as providing subterranean channels for various public utilities, carriers for surplus rainfall, playgrounds for children where nothing else is available, and places of exercise or recreation for persons of all ages. It is obvious, of course, that not all streets are subject to the same demands along these various lines, and that what constitutes a good street under certain conditions of location and use might constitute a very poor one under different circumstances.

Almost Every Street Presents Its Own Special Problems.

For this reason there is no field of municipal administration in which generalizations are more difficult and dangerous than in the department of highways. Some streets are straight and properly so; but not all streets are, or ought to be, of this character. Some streets are subjected to heavy traffic, some to light traffic, and some to a combination of the two. Some serve industrial districts, some mercantile or residential, or a mixture of both. Some are main or arterial thoroughfares, routes of through traffic; others are used for neighborhood circulation only. If one were attempting to make an elaborate classification of city streets, there would be no limit to the possibilities, for there are almost as many types as there are streets themselves. No two streets, even in the same community, are exactly alike; each has its own particular characteristics, needs, problems, and individuality. Some, indeed, have a great deal of individuality while others have none at all. Almost every question relating to street administration, therefore, must be decided on its individual merits. The location of a new street, its design, its width, its relative apportionment of space to roadway and sidewalk, its planting, its fixtures—all are determinable by a study of local conditions and not by any rule-of-thumb. This does not mean, of course, that each street bears no relation to other streets; on the contrary, all city streets are to be a greater or less degree interrelated. But insofar as they have varying functions and purposes they require

varying treatment. This ought to be a commonplace, yet it is not unusual to hear people say that such-and-such is the ideal form of street layout[1] or the proper minimum width for all streets, or that this-or-that is the best type of pavement, or the best type of sidewalk, or the best method of street lighting.

A General Classification of Streets.

Now while it is true that no two streets are exactly alike, it is also true that many of them are sufficiently alike to be grouped into classes. This classification may be made on a basis of traffic, or of surroundings, or of both combined. In popular parlance such classifications are freely made; we speak of downtown streets, business streets, residential streets, side streets, teaming streets, main streets, cross-streets, and so on. But whatever the classification we use it ought to be elastic, for many streets will stand on the border line between the classes. With the growth and expansion of the community, moreover, a street may pass from one class to another. Everyone has seen residential streets gradually transformed into business thoroughfares, sometimes within the space of a very few years.[2] In general, however, the streets of a large city represent at least seven or eight distinct types, each presenting special problems and requirements. These various types may be grouped and briefly described as follows:

I. *Secondary Streets*

(*a*) Alleys, lanes, courts, and passageways. These subsidiaries are the simplest of all, being restricted to a single function, that of providing for a small amount of pedestrian traffic or for use by delivery wagons, garbage collectors and the like. They present no serious problems as regards paving, maintenance, cleaning, or lighting. Very often they are "private ways," maintained by the owners of abutting property.[3]

[1] "The ideal system of streets worked out by modern city planners is one resembling the web of a spider." H. M. Pollock and W. S. Morgan, *Modern Cities* (New York, 1913), p. 33.

[2] The transformation usually begins at the corners, with the establishment of a neighborhood grocery, drug store, newsstand, and so forth. Then other types of retail business come in, one after another, edging the householders out of the way. One of the aims of zoning (see pp. 91-93) is to prevent this mixing of shops and dwellings.

[3] The signs "Dangerous passing" or "Pass at your own risk," which are often posted at the entrance to those private alleyways do not mean of course that the alley is in fact dangerous for traffic. They are merely

(*b*) Parkways, esplanades, boulevards, and drives. These are used for pleasure driving only and almost exclusively by motor cars. To some extent they may serve as through-traffic arteries, but that is not their main purpose. Heavy vehicles are often excluded. Thoroughfares of this type usually require no sidewalks; they are planned with the strong emphasis on æsthetic considerations and hence are rarely straight. The problem of paving, cleaning, and lighting them is relatively simple.

(*c*) Minor or side streets in strictly residential districts. There are more of these highways than all other city thoroughfares combined. Traffic upon them is strictly local, and neither heavy nor congested at any time. They need not be wide, or heavily paved, or brilliantly lighted.

II. *Primary Streets*

(*d*) Main streets in residential districts. These are the highways on which retail business first begins to encroach; often they assume a half-residential, half-mercantile aspect. Traffic upon them is highly diversified; part of it is cross-city or through-traffic, and part of it is local. It includes both heavy and light traffic, some of it is rapid and some slow-moving. Trucks, passenger cars, horse-driven vehicles, and street cars may all use such streets at the same time. There is probably less uniformity among streets in this class than in any other. The problems of construction and maintenance are therefore more complicated than in the case of minor residential streets.

(*e*) Retail business streets. In every city, however modest its dimensions, there is at least one street of this sort, one "main street," and in large communities there may be several of them. It is here that congestion of traffic first shows itself, this congestion being due in the first instance to the use made of retail business streets, on both sides, for the parking of cars. Not uncommonly these streets are among the oldest in the city, and none too wide for traffic without parking privileges. Wide sidewalks are needed by the throng of shoppers in retail areas, and after two lines of parked

intimations to the public that the owners assume no liability for any mishaps that may occur to persons using them.

cars are set next the curb there is rarely enough space left for the widely diversified traffic which flows into streets of this character. Hence the problem of regulating and expediting traffic is sometimes more difficult than any problem connected with paving or lighting. It is on the retail business streets that the absence of planning has made itself most conspicuously and most severely felt.

(*f*) Streets in the vicinity of docks and freight terminals, or in the industrial (factory) section, or in the wholesale and market districts. These thoroughfares are highly specialized in their use and fundamental in their importance to the life of the community. A steady strain is put upon their surfaces by heavily-laden vehicles, so that even the most durable pavements have difficulty in standing up under it. The problem of keeping such streets clean, especially in wet weather, is also one which presents great difficulty. Although the number of vehicles using these streets is not relatively large the congestion is often acute. This is because so much of the traffic is slow-moving and because large portions of the street surface is taken up by trucks backed up to the curb for loading and unloading.[1] Obviously very little street space need be allotted to sidewalks. Street lighting becomes no problem here for the reason that these thoroughfares are almost deserted by night.

(*g*) Streets in the financial and office districts. These, like the streets in the wholesale and shipping sections, are almost wholly used in the day hours. The street congestion in the financial and office areas of a large city is due chiefly to the great concentration of persons afoot and not to the presence of heavy or slow-moving vehicles. A single great office-building may shelter many hundred individuals during the working hours of the day. The main problem in such streets is to provide adequate sidewalk space for pedestrians and to prevent the street surface from becoming too noisy.

(*h*) Arterial streets or main channels of through traffic, whatever the nature of the district they traverse. In every

[1] A row of such trucks will take up about fourteen feet of roadway. Lined along both sides they leave only twelve feet for moving traffic in the center of a forty-foot thoroughfare.

community there are certain streets which carry on the bulk of the traffic passing through the city on its way to somewhere else. These are trunk thoroughfares, usually linked up with the county or state highway system. They may be either residential or business streets from the standpoint of what flanks them; their outstanding characteristic is the almost continuous stream of trucks and cars which moves through them as rapidly as the speed-limit permits. Some streets of this type carry many hundred cars per hour, especially at certain busy periods of the day. Certain of them are heavily congested during the morning hours when people are coming in from suburban homes to their shops and offices and again in the late afternoon when this flow of traffic is reversed. At other hours there may be little traffic at all. These trunk thoroughfares have not usually been planned as such; they are merely streets which cross-city traffic has happened to select because they afford direct routes. Very often the added burden results in acute congestion. Whether as regards paving, lighting, or the regulation of traffic these streets are usually the most difficult to deal with satisfactorily.

Why Some Classification of Streets is Desirable.

It is not to be inferred from the foregoing outline that streets can be picked up bodily and set down into one or other of these classes. Some city highways are impossible to classify in this or any other way. Sometimes a long street changes character during its course, passing successively through residential, industrial, and mercantile districts, and serving over certain stretches as a thorough-traffic highway. Obviously it cannot change width, type of pavement, and equipment at these intervals. The great majority of streets are of a single, easily-recognizable type and it is desirable that certain general lines of policy, applying flexibly to each class of streets, should be formulated by the authorities in the interest of the city as a whole. Otherwise the decision of all questions relating to the design, width, construction, paving, cleaning, and lighting of individual streets is likely to be governed by the preferences or caprice of the neighboring property owners without reference to considerations of general utility. If every such neighborhood's demands were acceded to, even the smallest side-street would be paved with asphalt or bitulithic

(at six dollars per square yard) and lighted with clusters of nitrogen lamps set on hand-wrought iron posts. Many mistakes in street administration are traceable to the habit of trying to give every group of property owners what they petition for, unmindful of the fact that streets belong to the whole city and are for the use of the whole people. A settled policy applying to all streets of the same or nearly the same type serves the ends of economy, and in the long run is in the best interest of everyone concerned.

The Width of Streets.

The width of a street is perhaps the most important of all factors in determining its usefulness.[1] This does not mean, however, that wide streets are always preferable to narrow ones, or that in planning a new community one need never be afraid of providing too much street space. Wide streets have their advantages, of course; they look imposing and when properly cared for enhance the general attractiveness of the neighborhood. But street planners are prone to forget that every inch of street space involves a continuing cost. The entire street area, whatever it is, must be kept in repair, cleaned, and lighted. Anything beyond what is actually needed, therefore, commits the city to a waste perpetually. Many new American communities, especially in the western portions of the country, have devoted too much space to streets.[2] The cost of maintaining them has become so great a burden that they are not kept properly paved,

[1] In the average man's mind there is some confusion as to what the "width of a street" means. There are three senses in which the phrase may be used; it may refer to the roadway from curb to curb, or to the space occupied by both roadway and sidewalks, or to the area from the buildings on one side to the buildings on the other, thus including the setback. There are three lines to be fixed in laying out a street, the curb line, the property line, and the building line. Strictly speaking, the "width of a street" extends from property line to property line, and thus includes the space owned by the city. Public ownership goes only to the property line although the private owner may be restricted from erecting any building within a certain distance of it. Set-backs, by the way, are usually determined when the street is planned and the building lots offered for sale. They may be established by ordinance or may be inserted in the original deeds. The maximum height or bulk of the buildings may be similarly restricted. In new residential sections there are, quite often, restrictions upon the minimum cost of the houses to be erected. These restrictions are created in the original deeds, not by ordinance, and usually hold for a designated term of years.

[2] Some of the world's finest streets are less than one hundred feet in width and a few are a good deal less. The Avenue de l'Opera and the

cleaned or lighted. Unduly wide streets in small cities are white elephants as the taxpayers have discovered.

The Desirability of Relating Width to Use.

Streets should be planned with a sense of proportion. Minor residential streets ought to be relatively narrow, not more than thirty-two feet from curb to curb. That is width enough for all the traffic using them; the general attractiveness of such streets is often impaired by making them any wider. If it is desired to make additional provision for light and air, this can be done by establishing set-backs. The owner, not the city, then takes care of the vacant plot in front of his house and as a rule he will not leave it neglected. But retail business streets and arterial thoroughfares must be broader if they are to serve their purposes satisfactorily. Provision should be made for the parking of motor cars, and for the location of surface tracks when necessary, likewise for sidewalks of more than the usual width. In connection with parking it is well to remember that in retail districts cars may be parked sidewise or diagonally to the curb, taking from seven to ten feet of street space, but in wholesale and shipping districts the trucks must stand at right angles to the curb and occupy fourteen to eighteen feet.

No Ideal Street Width.

There is, therefore, and can be no ideal width for all streets. As well might one argue that all the rooms of a house should be of the same dimensions. The size of a room depends on the use one proposes to make of it. The function of a street is to render public service, *inter alia* as a channel of traffic. The amount of traffic may vary, from one thoroughfare to another, as much as fifty or a hundredfold. The problem is one of adjusting width to needs, present and prospective. As between planning a street which is unduly wide, and one that is too narrow, the former is, of course, the less serious mishap; but errors in either direction can be avoided by the exercise of care and intelligence. The area devoted to streets in both European and most American cities is ample, and more than ample, if it were only better distributed.

The Old Method of Fixing Street Widths.

Until recent years the surveying of streets in American cities was influenced by that passion for symmetry and uniformity which is characteristic of so many things in American life.

Grand Boulevards in Paris have a width of ninety-eight feet from property-line to property-line; Piccadilly in London is only seventy-five feet wide, and the width of the Friedrichstrasse is only sixty-four feet.

Round figures were invariably used—forty, fifty, sixty, eighty, or a hundred feet. Whole areas were laid out in many communities with every avenue eighty feet wide and every cross street forty or sixty feet. Everything went in round numbers, multiples of ten. The same is true of sidewalk widths. Some cities have followed the general rule that one-fifth of the street width must be reserved for sidewalks, whether the thoroughfare be wide or narrow, and irrespective of its use. In the wholesale district one may find twenty trucks for one pedestrian; in the tenement district twenty pedestrians for one truck. Hence the bestowal of a moment's reflection on this matter will indicate that roadway widths should not be fixed uniformly but in terms of traffic zones, in multiples of whatever space a line of vehicles requires.

The New Method—in Terms of Traffic Zones.

Street traffic, when it becomes dense, tends to move in streams. Two streams of it move in opposite directions, each keeping to the right. Each requires for free passage a zone about nine feet in width. A line of cars parked sidewise to the curb takes about seven feet. In order to obtain, therefore, convenient space for parked vehicles on both sides of a street and adequate facilities for two streams of traffic as well, the roadway must be thirty-two feet in width from curb to curb. Anything less than this involves a restriction of parking privileges or a serious interference with the free flow of vehicular traffic. Add the sidewalk space, say twelve or fourteen feet, and you have forty-four to forty-six feet as the minimum satisfactory width for any street. If a wider highway, affording room for more than two streams of traffic, is desired, there is no halting place between thirty-two and fifty feet of paved surface. A street car track requires a free zone of ten feet (a little more in the case of interurban lines with long and heavy cars); a double-track route takes twenty feet of roadway. Tracks in the downtown sections have often been placed on streets where they leave less than nine feet on either side. This means that vehicles must encroach on the track-space, which slows down the street cars and other traffic as well. Elevated structures, supported on steel pillars, are a great obstacle to the free flow of street circulation, even on relatively wide thoroughfares. Most of the downtown streets in American cities are overloaded, and relief from congestion can only be had by diverting traffic from their surfaces. Widening is

Car Tracks in Streets.

often out of the question because of the heavy cost involved.[1] In the outlying districts, on the other hand, there is a surplus of street space which represents many millions in value.

The Process of Determining Widths.

The proper determination of width is a matter of careful calculation based upon the present and prospective needs of a particular street. First it is necessary to fix upon the approximate width of the roadway, from curb to curb. This will depend upon the number of traffic zones desired, but will also take into account the space needed by street cars and for the parking of vehicles. Then comes the allotment of appropriate space for tree planting or boulevarding, and for sidewalks. The proper distribution of area as between roadway and sidewalk depends upon the character of the street; in retail shopping districts much wider sidewalks are needed than in residential sections. As a matter of fact the distribution has usually been the result of following some fixed percentage rule and hence on many streets is not in keeping with the actual requirements at all. Finally comes the question of set-backs. Should buildings be permitted to stand flush with the sidewalks or should they be required to keep a specified distance back? Here, again, the answer depends upon the nature of the street. Set-backs are highly undesirable in the shipping, wholesale, office, or retail districts; they involve a wastage of valuable building space, are inconvenient, and serve no æsthetic purpose. But in residential areas they go far to enhance the attractiveness of the entire thoroughfare.

Set-backs.

Keeping the Streets Free from Obstructions.

The usefulness, as well as the attractiveness, of a street may be seriously impaired by a failure to keep it reasonably free from impedimenta of various sorts. This is particularly true of downtown areas where trolley poles, lamp posts, hydrants, letter boxes, fire-alarm boxes, and other instrumentalities of public service encroach on the sidewalk space. Private encroachments on the street space are also common—show windows which jut out into the sidewalk zone, clocks and other advertising devices, bulkheads erected during building operations, fruit and flower stands, news-stands and what not. On a busy retail street it can usually be demonstrated by actual investigation that the full traffic capacity of the sidewalk space is reduced by from twenty

[1] Attention may be called to Nelson P. Lewis's discussion of this topic in his paper on "Street Widening to meet Traffic Demands," printed in the *Proceedings* of the National Conference on City Planning (1917), pp. 43-59.

to thirty per cent by these various usurpations. The contribution to unsightliness made by the network of wires, signs, billboards, and other projections needs no comment. The continual tearing-up of streets in connection with the relaying or repair of water mains, sewer pipes, gas pipes, and wire conduits is also an important factor in detracting from the utility of traffic thoroughfares. Good street management should devote some of its attention to keeping the streets reasonably clear of these various obstructions.

The Street Gradients.

Apart from good planning, appropriate width, freedom from obstructions, and the proper distribution of the space between roadway and sidewalk, the most important factors in determining the usefulness of a street are its grading and pavement. The gradient should be about level when practicable, but it can seldom be made so without exorbitant outlay. The physical configuration of a city may require that many streets shall run up and down hill; but steep grades are always a detriment, particularly in the business districts where traffic is heavy. The question whether it is best to follow the topographical contour or to spend a large sum in cutting through a hill is sometimes very difficult to answer, for much depends upon the amount and nature of the traffic which will use the street after it has been completed.

Selecting a Suitable Pavement.

In determining the type of pavement which is most appropriate for any given street there are many things to be considered. Here, also, the amount and nature of the traffic are usually the most important considerations, but the character of the neighborhood must also be taken into account. Other things being equal, or nearly equal, it is entirely proper that the desires of the abutting owners should be respected, for they pay the bills, or, at any rate, a considerable part of them. There is little danger on this score, however, so long as the owners are agreed among themselves. It too often happens, indeed, that the whims of those who own or occupy property on a city street are allowed greater weight in the selection of the pavement than are the expert opinions of the engineers in the street department. The result is that some highly unsuitable pavements have been laid in various parts of all the larger American cities and have prematurely broken down under heavy traffic. An even more sinister influence is that of the paving contractor who has some

special brand of pavement to sell and who is often able, through his hold upon councilmen or other city officials, to dictate what shall be laid. It is for this reason that Philadelphia, for example, has wasted very large sums in putting light pavement upon heavy traffic streets.

Types of Paving Material.

There is no such thing as an ideal pavement, the best under all conditions of wear. What is admirably adapted for use on one thoroughfare may be a misfit for another near by. Six or seven different types of pavement are now being used in European and American cities, including granite blocks, cement, concrete, wooden blocks, brick, asphalt in various combinations, and macadam. Each material has its merits and defects. One stands up well under heavy loads, but is expensive, noisy, and hard to keep clean. Another is cheaper, and more attractive in appearance, but suitable for light traffic only. A third is out of the question on hilly streets, being too slippery in wet weather. Climatic conditions must also be taken into account in determining the relative durability of the different types, inasmuch as frost works greater havoc with some forms of pavement than with others. If someone would only invent a durable, smooth, cheap, noiseless, clean, attractive pavement, he would be a public benefactor and win a kingly crown at the hands of highway engineers; but no such boon is as yet in sight. So cities must continue to wrestle with the problem of selecting, from among the available types, the one which appears to have the preponderance of merit for use in each individual case. In some instances everything else must be sacrificed to durability; in others, owing to the absence of heavy traffic, this is not a consideration of prime importance. A careful study of the essentials will generally narrow the choice to one or two materials.

Relative Cost of Different Pavements.

The initial cost of a pavement is always a matter of great practical consequence. No matter how desirable a paving material may be it cannot be used if the expense is too great for the city or for the neighboring property owners to bear. Recommendations of engineers have often been rejected on the score of cost. The practical question is not what is best at any price but what is best within the limit of the funds available. Costs, moreover, differ from place to place, depending upon proximity to materials or facilities for water transportation. The same type of pavement may cost a good deal more (or less) in Omaha than

in New Orleans. Estimates must be based upon local conditions. In general, however, the cheapest type of pavement is macadam. Sheet asphalt and concrete always cost more. Pavements of brick, wooden blocks, and granite blocks are usually more expensive still. All this is not a very definite statement of the financial factors involved, yet it would serve no useful purpose here to insert a table of comparative costs per square yard of each pavement today. Such figures would be misleading because, if based upon costs in one city, they would not hold good in another; if calculated upon the price of materials and labor today, they might not be applicable tomorrow.[1]

Relative Durability of Pavements.

The life of a pavement, its durability, is determined not only by the materials and workmanship but by the quantity and nature of the traffic passing over it, by climatic conditions, and by the promptness with which necessary repairs are made. The diversion of heavy traffic from its customary channels to some other street, even for a few weeks during the re-laying of a water-main, will sometimes cause more wear than would ordinarily take place in several years. If holes, moreover, and ruts are allowed to remain unattended to for any length of time, especially during rainy weather, the break-down of a pavement is greatly hastened. Granite blocks, by common consent, make the most durable of all pavements under the strain of heavy use, but concrete pavements and wood blocks set on a concrete base have both demonstrated wearing qualities of a high order. The durability of a concrete roadway is yet to be fully determined; much depends, of course, on its thickness and on the quality of the concrete used. The severity of climatic changes is also an important factor in determining the stability of all concrete construction.

The Foundations.

A very important factor in determining the life of a pavement is the nature of the foundation on which it is laid. Highway engineers realize that before any form of pavement is put down the base upon which it is to rest should be thoroughly graded and compacted. Then a foundation of broken stone or concrete should be installed and crowned ready for whatever form of surfacing is to be used. No form of pavement, under the concentrated traffic-strain of today, will prove satisfactory unless

[1] Current costs are published from time to time in the monthly periodical known as *Public Works*.

the subgrade has been properly constructed. Cheap foundations are a poor form of street-paving economy.

Other Qualities.

Smoothness, cleanliness, noiselessness, safety for traffic and general attractiveness are features which are entitled to a varying amount of emphasis in different localities. Asphalt and asphaltic concrete pavements are the smoothest when newly laid; they are easy to keep clean and attractive in appearance, but they tend to become slippery and "skiddy" in wet weather, especially on grades and at sharp turns. Wood block pavements are open to this objection in the same degree; besides they cost more than asphalt, they do not look so attractive and are more difficult to keep clean. In very hot weather the bituminous or other filling between the blocks sometimes oozes to the surface; in cold weather the water occasionally gets under the blocks and by freezing heaves them. Macadam roadways are the least sanitary and least durable of all, but they are easy to repair and tolerably safe for travel under all conditions of weather. Granite block pavements have the serious defect of being very noisy and hence are never laid in the neighborhood of hospitals and schools. The older forms accumulate dirt and are not easy to clean. In rainy weather they become a wallow of mud by reason of the surface water which washes into the depressions. Paving experts have attempted to rate these various merits and defects upon some uniform scale, but this is a rather difficult thing to do because no two people agree upon the relative weights which ought to be assigned to such qualities as cleanliness or noiselessness. The weights, of course, will vary with the neighborhood.

Municipal Paving Experience.

In their attitude toward the different types of pavement the street-paving authorities of American cities have passed through several stages. The earliest pavements were mainly of cobblestone. But these proved to be rough, noisy, and unsanitary. Cobblestones have been almost entirely replaced in this country, but miles of such pavement may still be found in European cities, especially in those of Holland. Stone blocks next came into vogue and are still holding their own in the shipping, wholesale, and market districts. About 1880 asphalt pavements came into use and their popularity during the next thirty years proved extraordinary. Hundreds of miles of asphalt were laid in all the larger cities, mostly on residential streets, but to some extent

in business areas as well. Today there is, in the cities of the United States, a greater mileage of asphalt pavements than of all other pavements combined. Brick also gained considerable favor during the same period, especially in those cities where hard or vitrified brick could be had cheaply from local sources. Since 1900 concrete pavements have become steadily more popular and various improved forms of asphaltic and tar pavement have been placed upon the market—asphaltic concrete, for example—and are now being extensively used. Pavements of creosoted wood blocks were first laid in various European cities, notably in Paris, during the last quarter of the nineteenth century, but until about 1900 there was a general impression among highway engineers that wood pavements could not stand the severity of northern climates. This impression, however, was demonstrated to be ill-founded, and during the past twenty years many wood block pavements have been laid in American city streets. Although it is expensive to instal, this pavement has a relatively long life under ordinary traffic conditions and is particularly adapted for use on retail business streets or main residential thoroughfares. So the process of experimenting and adapting goes on. It is not uncommon for a large city to have eight or ten different types of pavement within its bounds,—granite block, wood block, vitrified brick, cement concrete, asphaltic concrete, sheet asphalt, bituminous macadam, and waterbound macadam.

Effects of Replacing Horse-drawn by Motor Vehicles.

There is no assurance that finality in the matter of paving materials or methods has yet been reached. The character of street traffic is continually changing and this has an obvious relation to the suitability of materials. Horse drawn vehicles are disappearing from the city streets, giving place to motor cars and trucks. This simplifies certain problems, but accentuates others. It diminishes noise, makes the streets more easy to keep clean and permits the use of steeper gradients. On the other hand, it means that traffic moves faster and that heavier loads are carried. Twenty years ago the pavements were designed for loads of a ton or less, moving at six or eight miles an hour; today they must be adapted to something altogether different.

Excavations in the Pavements.

Permanent damage is done to all types of pavement by permitting the city departments and the public service companies to tear up portions of the streets in order to relay or repair pipes

and conduits. Nothing gives the street department more worry or brings upon its head so much unmerited criticism as this. The inconvenience to traffic is always considerable, but far more important is the actual injury done to the pavement. It is at best very difficult to restore any form of pavement to its original condition after excavations have been made, and this is especially the case when the work is done during the winter months. In any event the restoration leaves an unsightly patch which eventually breaks through because sufficient time was not allowed for the foundation to harden before putting the surface on. Some of this ripping-up is unavoidable, because accidents to sub-surface utilities will happen in spite of the best planning and care. But a considerable part of it is the result of a failure to take time by the forelock. It is axiomatic (or ought to be) that the proper time to replace a superannuated gas main is before a new pavement goes down.

How This Can be Avoided.

Some cities have tried to enforce a rule that no pavement shall be opened within a specified time after it is laid; but when leaks occur in water or gas mains much damage may be the result unless they are at once repaired. This damage may easily be far more expensive than would be caused by tearing up the pavement. What the average American city needs is not a code of rigid prohibitions but better co-operation between the street department and the public utility companies, and between the departments themselves. Streets are often paved without reference to the condition of the mains and conduits which lie beneath, indeed without even an inspection of them. Then the new pavement is scarcely dry before a crew of laborers come with picks and shovels to make excavations in it.[1] The situation is not now so bad as it used to be; for most street departments have adopted the practice of announcing their plans well in advance of the actual construction. This enables the other departments and the public service companies to make their own replacements accordingly. In Cincinnati, for example, ninety days' notice of each contemplated street construction must be given to the public utility companies and to all abutting property owners. Permits for openings in newly paved streets are then refused in all cases except those of extreme urgency.

[1] In the Borough of Manhattan, the busiest section of New York City, there were more than 25,000 openings in the streets during the year 1921.

Excavation Permits.

All cities try to guard against this form of damage to their pavements by stipulating that no street openings shall be made until after a permit has been obtained. Before granting such permits it is the custom to require a cash deposit or a bond as a guarantee that the pavement will be properly restored. The street department must be notified of the exact time at which the excavation is to be made, and also of the time at which the pavement is to be replaced. This is to enable the street department to have one of its inspectors on the spot. In some cities individuals or corporations are not permitted to do the replacing; the street department does the work and charges the cost to the ones concerned.

The Need for Accurate Maps of Subsurface Utilities.

The needless mutilation of pavements can also be prevented by having the city engineer's office keep accurate plans and records of all subsurface carriers. These utilities have been multiplying year after year in the large cities until they form a veritable maze of tunnels, mains, pipes, and conduits. Unless exact plans, records, and notes are kept there is no way of definitely locating them except by digging test pits in the pavement. To do this involves expense and delay; it also means public inconvenience. All the larger cities are now providing themselves with detailed archives covering the location, size, and nature of every utility which is under the surface of the streets. It has sometimes been suggested that a single tunnel might be built to carry all subsurface mains and conduits, the tunnel to be of sufficient size to permit repairing from underneath rather than from above, but the expense involved, at this late stage, would be very great.[1]

Regulation of Traffic on the Streets.

Some complicated street problems are connected with the regulation of traffic. The advent of the motor vehicle has enormously increased the congestion, especially on main thoroughfares, to the point where great difficulty is sometimes encountered in keeping the streams of vehicles moving at all. In all large communities it has been necessary to frame elaborate traffic regulations and large numbers of traffic officers have to be detailed for duty in enforcing these rules. The regulation of traffic is not usually a function of the street department but is turned over to the regular police authorities; in some cities, however, the street department makes some or all of the traffic

[1] This plan, however, has been followed in Paris. See *below*, p. 174.

rules. For example, it usually designates certain thoroughfares as one-way streets or provides for the exclusion of heavy vehicles from parkways.[1]

Organization of the Street Department.

The organization of the street department is not everywhere the same. In some cities it is an independent department with a commissioner or superintendent at its head. In others it is a division of the public works department. The advantage of the latter plan is that it brings street construction into close coordination with kindred municipal activities, such as water supply, sewerage, and lighting. In larger communities the establishment of a department of public works, divided into bureaus of engineering, streets, bridges, water, sewerage, and lighting, has been found to prevent a good deal of inter-departmental friction and overlapping. But when so many different, although closely related, functions are massed together into one department, there is some danger that the head of the department will have too much to do. The major problems will then get all the attention and the minor ones will remain neglected. It is hard to get close co-operation without centralized control, and it is hard to keep centralized control from becoming top-heavy.

Financing Street Pavements.

A word should be added concerning the methods of financing street pavements. In European cities the cost of street paving is borne by the public treasury, and only in rare instances is any special levy made upon the adjacent property owners. Some American cities follow the same plan; but the majority of them, especially in the West, are in the habit of assessing a portion of the cost (or sometimes the entire cost) upon the owners of abutting property in proportion to their frontage.[2] This levy is known as a special assessment, or betterment tax, or improvement tax. Strictly speaking it is not a tax at all but a specific charge for a definite service, and hence in the same category with water and lighting rates. The entire amount of the special assessment, moreover, does not become payable at once, on completion

Special Levies on Abutting Property.

[1] For a discussion of the work of the police in handling traffic, see *below*, pp. 200-201.

[2] Sometimes the owners pay all or a part of what the original pavement costs, while the city pays the cost of reconstructing it. Sometimes the city treasury pays for the pavement at street intersections; sometimes this also is pro-rated among owners within a certain distance of each corner. A table showing the practice in twenty-one cities may be found in the *Seventh Yearbook of the City Managers' Association* (1921), p. 76.

of the street work. The city pays for its new pavements by borrowing. The terms of each loan covers from ten to thirty years according to the assumed life of the pavement, but one or more of the serial bonds matures annually. As the repayments fall due they are paid out of general taxes, or, where special assessments are levied, from the proceeds of the assessments. The assessment constitutes a lien or obligation on the property and for this reason it is advisable, before buying any parcel of real estate, to make certain that there are no improvement taxes due or in arrears.[1]

The Merits of This Policy.

There has been much discussion concerning the justice or injustice of making private owners pay for street pavements. The European theory is that since the streets are for the use of the whole community the cost of paving them, and of keeping the pavements in repair, should be a charge on the general tax rate like the cost of police or fire protection. It is pointed out, moreover, that many streets are largely used by cross-city traffic, with inconvenience rather than benefit to those who live on them. Many cities in the eastern part of the United States have been inclined to this point of view.[2] On the other hand, it cannot be denied that good paving enhances the value of adjacent private property, and there is some force in the contention that the owners ought to bear a share of the cost. Otherwise the city is merely presenting them with an increment of value which they have done nothing to earn.

Social Aspects of the Question.

The question, however, is not one of financial justice alone. It has a social aspect. When the construction and upkeep of streets are charged to the abutting property owners it is difficult to deny them the right of deciding when and how the work shall be done. The usual plan is to provide that the owners, or two-thirds of them, may petition for a new pavement, designating the type that they desire. The street department then approves the petition; the city council or commission authorizes the work and on its completion the cost is pro-rated. Under this arrangement it is easy to see that the streets in the better sections of the city will be kept well-paved and in good order; the resident owners will take a personal interest in the matter. But in the

[1] For a further discussion of special assessments, see *below*, pp. 464-465.

[2] In the case of sidewalks, however, the practice of levying the cost upon the owner is pretty general throughout the country.

tenement areas, where the property owners are non-residents they will display no such solicitude. On the contrary they are reluctant to assume the annual charge which a new pavement involves. The plan of paying for street pavements by the levy of special assessments usually means, therefore, that poor districts get poor streets. But if the cost comes out of the general taxes, the bulk of the street expenditures will go where the majority of the voters happen to live, and the tenement wards will get their proper share.

This chapter is brought to a close with a realization that a dozen topics of considerable interest and importance relating to streets have been left untouched. The street is a common and familiar thing, yet its complexity and the many-sidedness of its problems are appreciated by only a very few among the tens of thousands who hurry along its surface. It is not a mere line on a city map, a slit between two rows of buildings, but a living, growing, ever-changing utility which should be studied with the same care that the biologist bestows upon his laboratory organisms. The evolution of a street is not the outcome of chance or accident; its growth is a directed growth, within the power of human hands to control. The Rue de Rivoli, the Champs d'Elysée, Pall Mall, Regent Street, Unter den Linden, Fifth Avenue, and Michigan Boulevard are what men have made them; but so are the streets of Montmartre, of Pimlico, of Köpenick, and of the Ghetto.

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Much information concerning street construction and maintenance may be found in the various engineering periodicals, notably in the *Engineering News-Record* and in *Public Works.* The last-named periodical publishes, from time to time, tables showing the progress and cost of pavements in cities.

# CHAPTER XXVIII

## PARKS AND PUBLIC RECREATION

An Initial Definition.

The simplest words are often the most difficult to define; by usage they sometimes acquire many shades of meaning; and in time may connote any one of a dozen different things. The term "park" is one of the shortest and simplest words in the English language. Everyone knows what it means, or thinks he does, until asked to give an exact definition.[1] So it may be well to begin by making sure of our terminology. In the vernacular of the people a park is a public space planted with trees, shrubs and grass; in the usage of municipal administrators the term is much more comprehensive. It includes not only areas of this sort but public gardens, plazas around public buildings, athletic fields, neighborhood centers, forest reservations, open spaces on ocean, lake or river frontages, and sometimes even playgrounds and cemeteries. It is in this broader sense that the term will be used throughout the present chapter, a park being any open space, publicly owned or dedicated to public use, which serves either in whole or in part as a place of public recreation.[2] In extent it may vary from a small grass-plot in the center of a city square to a great tract comprising several thousand acres.

Parks in the City Plan.

By their parks are cities known. It is for this reason that some cities both in Europe and America have acquired a reputation for attractiveness which they do not altogether deserve, while others are wrongly thought to be congested and poorly planned. The casual visitor often judges a city by its parks and open spaces. If they are numerous and well-kept, especially in

[1] "The term park is not very definite: to one mind it carries the idea of a field of grass with trees; to another an organized pleasure ground for a large city so arranged to be convenient to all those desiring its enjoyment." From the *Report of the Commissioners of Central Park* (New York, 1860).

[2] In the usage of landscape architects and city planners the term "park" now excludes playgrounds, playfields, and neighborhood centers, in other words places where the main stress is placed upon organized recreation.

the downtown sections, he gains a favorable impression of the city as a whole. He does not wander into the tenement districts to see what the conditions are down there. He does not go looking for festering slums or fire-trap factories. And the converse is also true; the sightseer will frequently gain an unfavorable impression of a whole community by reason of the narrowness, crookedness, and congestion of its downtown streets, unmindful of all that lies beyond.[1] A city may have great recreation areas in its outlying sections without obtaining due credit for this in the public imagination.[2] New York City contains within its limits some of the most densely populated spots on earth, yet its park reservations are greater in proportion to its size than are those of many great European cities. Paris stands in the world's envisagement as a city of boulevards, gardens, *bois, places* and *champs,* while Chicago is portrayed as a place where ungainly buildings, elevated railway structures, and bellowing stockyards crowd each other cheek by jowl. Yet when one gets down to facts and figures the mid-western metropolis has more open space per square mile and per thousand population than the city of sweetness and light on the borders of the Seine.

**Parks in European Cities.**

In many European cities the parks are a heritage from the older days of kings, dukes, and barons. These potentates, having built their palaces or castles or mansions in or near the cities, acquired large tracts of adjacent land which they adorned on an extensive scale. Then, in the dynastic vicissitudes of history, the city or the state came into possession of these lands and buildings; the former became public parks while the latter were usually turned into museums or art galleries. Many European cities also acquired at an early date, either by purchase or gift, public lands of their own and these today are of priceless value, being located near the heart of the modern community.

**Early Park Planning in America.**

In America the city surveyors of a century ago proceeded on the principle that small open spaces should be provided at fre-

[1] The average American tourist who goes to London gets his general impression of the metropolis from such show places as Hyde Park, the King's Way, Trafalgar Square, and the Thames Embankment. He sees nothing of Battersea, Limehouse, Pimlico, and Whitechapel.

[2] Every visitor to Boston sees Boston Common; but not one in ten knows anything about the Middlesex Fells, the Blue Hills Reservation, and the other great metropolitan parks.

quent intervals, chiefly at street intersections. These small plots commonly took the form of squares or gardens, rarely more than a half-acre in extent and often much less. They were designed to serve a triple purpose, to afford additional light and air for the tall buildings that were likely to be built at important street intersections, to provide places where the people of the neighborhood might sit during hot weather, and to improve the general appearance of the street junctions. Not infrequently they were so placed as to afford an agreeable foreground or approach to public buildings.[1] In an age when cheap and rapid transportation in and out of the city did not exist it was naturally assumed that small open spaces close at hand would be of much greater value to the people than larger tracts farther away. At any rate many of these squares and small parks were provided for in the earlier city plans, in the New York plan of 1807, for example. But their value was not adequately appreciated by the public; it never is so long as a city remains small and uncongested. So the real estate promoters, who regarded the reservations as so much wasted building land, were able in many cases to have them stricken off the map. This was not an irretrievable misfortune, for although squares and small public gardens are in some degree useful under present-day conditions, the facility with which people can be transported out of the congested districts has reduced the amount of dependence that need be placed upon them. Not many cities, either in Europe or in America, are now making any sustained effort to increase the number of these neighborhood breathing-spaces in the older sections of the community. There are other types of recreation area on which the money can often be more advantageously expended.[2]

[1] The open square, or place at the junction of two or more main thoroughfares, was a feature of town planning in Roman times. In their provincial *coloniæ* the Romans usually placed the Forum in an open space at the intersection of the two chief axial thoroughfares. The *place* of the mediæval and Renaissance city was a descendant of the Roman Forum, but it was not always square. This phase of town planning received little attention from the sixteenth to the nineteenth centuries, but it obtained a revival in popularity by reason of its effective use by Haussmann and Deschamps during the Paris reconstructions of 1852-1870.

[2] In planning new streets, however, provision can often be made for these little "squares" by utilizing odd corners or fragments of land which are not well suited for building purposes.

Playgrounds.

The neighborhood playground is one of these. A playground should cover from a quarter of an acre to two acres, according to the age of the children using it; its location is a matter of prime importance.[1] The playground should be brought to the people, not the people to the playground. This means that it should be located in a thickly-populated neighborhood, preferably near the schools, within a quarter-mile radius of those who use it. With a proper arrangement of apparatus and play-periods it is estimated that from four hundred to six hundred children, according to variation in age, can be given organized recreation on one acre of ground. Whether the playgrounds should be in charge of the park department or the school authorities is a question that will be discussed later on.[2]

Athletic Fields.

Out of the playground movement has grown a public demand for athletic fields such as afford recreation to youths and adults. Now that the laws relating to amateur games on Sunday are being relaxed, the need for such fields has greatly increased, and many American cities are doing what they can to meet this need. The problem is not an easy one, however, for large tracts of level ground are required. A satisfactory field, if it is to serve for general public use, ought to be from five to ten acres in extent; even then it will not usually prove adequate on Saturday and Sunday afternoons during propitious weather. It should also be within walking distance (say within half a mile) of where large bodies of people live; an athletic field which takes a half hour by trolley to reach is necessarily restricted in its availability to the rank and file of the people. City planners use as a rough means of estimate the formula that playfields should be an acre in extent for every ten thousand population. When properly located, equipped, and supervised, these fields are of high social value. They furnish an outlet for the physical exuberance which, among healthy young men, is likely to manifest itself in rowdyism if it is not directed into wholesome channels. We hear a great deal about the value of organized athletics in schools and colleges, and much of what we hear is well said. But what of the thousands of young men and women who are not in the schools and colleges? Is there any reason why they should

[1] A playground for small children need not be so large as one for older boys and girls who need more space for their games.

[2] *Below*, p. 348.

crave the stimulus of outdoor sports any less, or fail to derive from them an equal value?

The Public Guidance of Outdoor Recreation.

Recreation consists for the most part in doing what you don't have to do. The only difference between labor and recreation, very often, is the spirit in which the exertion is performed. Mountain climbing, for example, involves the most arduous sort of bodily effort. Tourists do it for recreation; guides do it for pay. Some people play baseball for recreation; others earn their living by it. People are very imitative in their habits of recreation; they do what they see others do even though they may have no personal fondness for it. But as a rule young men and women, whatever their daily vocations, would rather obtain their recreation outdoors than in; they would rather amuse themselves than be amused. It is only when convenient facilities for the one type of recreation are lacking that they resort to the other.[1] If the policy of "athletics for all" is sound as applied to educational institutions, it is equally sound in its application to all persons of like age, whatever their station in life. The physical well-being of the whole people, insofar as it depends upon bodily exercise, cannot well be a matter of indifference to the public authorities. It is the duty of the latter to decide upon the best forms of recreation and to provide the facilities.

Neighborhood Centers.

The feasibility of combining athletic fields with neighborhood recreation centers has received much attention in recent years. The neighborhood recreation center, as its name implies, is a tract of land provided not only with facilities for organized play (including baseball diamonds, basketball and tennis courts), but with a gymnasium (including shower baths or a plunge) and perhaps an assembly hall for concerts, dances, and motion-picture shows. In winter, when practicable, outdoor skating rinks are provided. A supervisor, appointed and paid by the city, has charge of each neighborhood center and arranges for such programs of recreation as will draw the interest of all classes. The size, equipment, and activities of the place vary with their environment. In the better residential districts the resort to public recreation centers is naturally much smaller than in the tenement sections and the interest of those who use the facilities

[1] The enormous patronage of the indoor recreation facilities, such as motion-picture theatres, is due in part to the relative lack of outdoor recreational opportunity for the masses of the people.

is in each case somewhat dissimilar. The *modus operandi,* in the case of neighborhood centers should conform, as someone has said, to the *modus vivendi* of the locality.

The "Parks" Proper.

During the third quarter of the nineteenth century many cities in America provided themselves with parks covering considerable areas of ground, usually on what were then the outskirts of the community.[1] These areas were laid out informally, some of them by that pioneer of landscape architecture in America, the elder Frederick Law Olmsted, who believed that the chief function of a park was to provide a place of rest and recreation for the people of the crowded districts. Politicians and real estate promoters, however, often stood in the way. The former preferred to have the city's money spent in ways that would afford more patronage; the latter objected to the removal of the land from private exploitation. They sneered that these parks were nothing but "places for the rich to drive through and the poor to look upon." But the cities kept on acquiring park lands and developing them.

Purposes of the Older Park.

The chief purpose of a park, using the term in the older sense, was well stated in a report of the Central Park Commissioners more than sixty years ago. "The primary purpose of the park," this report declared, "is to provide the best practicable means of healthful recreation, for the inhabitants of the city, of all classes. . . . It should have an aspect of spaciousness and tranquillity, with variety and intricacy of arrangement, thereby affording the most agreeable contrast to the confinement, hustle, and monotonous street-division of the city. It should, that is to say, so far as practicable, present to the eye a charming rural landscape, such as, unless produced by art, is never found within the limits of a large town. . . . The park is intended to furnish healthful recreation for the poor and the rich, the young and the old, the vicious and the virtuous so far as each can partake therein without infringing upon the rights of others, and no further."

The Drift of Park Policy Today.

In our own day park policy has tended to become more aggressively utilitarian. This is in response to the popular demand for

[1] Central Park in New York City, for example, was an outlying park when designed in 1858. In spite of its large area (843 acres) the city has long since swallowed it up. Writing in 1860 Olmsted declared that there were hardly any other public pleasure grounds in the entire United States.

places of active outdoor exercise and recreation, such as the playground, the athletic field, the neighborhood recreation center, and the public bathing beach. But utility should not be our only test. Parks have the function of civic embellishment. Not all the citizens of any large community are oblivious to the charms of nature directed by man. In the development of good taste among the people it is probable that no single influence, the world over, has been more influential than the public park and garden. In creating examples of what man and nature can accomplish in unison the old-fashioned parks of Europe and America have justified their existence, even though their strictly utilitarian value may now seem relatively small. The temptation to turn these spaces into playgrounds, athletic fields, or neighborhood centers, or to utilize them as locations for public buildings ought therefore to be resisted. Changes in habits of life, or in the public attitude towards recreation, have not impaired the æsthetic value of the parks.

Three principles may well be kept in view as the basis of future park policy in American communities. First is the desirability of securing variety in the location, nature, size, purpose, and design of public grounds. What a city most needs is dependent upon what it already has. Some communities are already provided with great tracts of park land in the outlying districts, but have very little in the way of park areas close in. Others have extensive and highly attractive in-town parks, but no athletic fields or neighborhood recreation centers, and very few playgrounds. The strength of a city's park system depends upon balance, proportion, variety, not on area alone.[1] It is for this reason that statistics of park acreage per thousand inhabitants do not tell the whole story. Paris, for example, has an acre of public grounds for every five hundred people; but it happens that nearly the entire area is included in two great tracts, one at each end of the city, remote from the crowded sections.[2] Philadelphia, too, has placed most of its eggs in one basket, having more than 3500 acres in a single tract—Fairmount Park. There is a tradition among park administrators that a city ought

Three Principles on Which Park Policy Should be Based:

1. Parks Should be Varied in Location and Character.

[1] For a readable outline of what the city ought to have, the reader may be referred to Professor Henry V. Hubbard's article on "Parks and Playgrounds" in *Landscape Architecture* (July, 1922), pp. 240-264.

[2] The *Bois de Boulogne* and the *Bois de Vincennes*.

to have "about one-tenth of its whole area in parks," but quite as much depends on distribution as on size.

2. Land Not Well-suited for Building Purposes Should be Utilized When Practicable.

Second, it is desirable to acquire for public use such land as is not well adapted for building purposes. In and around every city there are certain tracts which by reason of their formation, being too hilly or too low, are not usable for building purposes without levelling or filling. This land can often be bought very cheaply and it sometimes requires no great outlay to make it suitable for park purposes. In the case of low or swampy land, the draining of the tract removes a menace to the public health and transforms an unsightly area into a pleasure ground. Caution must be exercise, however, lest the city purchase land for the sole reason that it can be bought at a bargain. Land which is clearly unsuitable for public use without large outlays ought not to be acquired at any price. In selecting land for playgrounds and athletic fields, however, the city authorities do not, as a rule, have a wide range of choice. They must secure land which is reasonably level, or which can be made so without much expense, and which is conveniently located. This being the case, it is permissible to take for playgrounds some land which is suitable for building purposes; it may even be defensible to lay bare a tract already built upon. But in the case of ordinary in-town parks this policy can rarely be justified.

3. The Natural Assets of the Neighborhood Should be Brought Under Public Control.

There is a third principle, worthy to be kept in mind but often forgotten. If there be in or near any large community some place which nature appears to have designed for public recreation—an ocean bathing beach, the shore of a stream or lake, a mountain peak, a canyon or arroyo, a waterfall—anything which combines natural availability for receation with scenic attractiveness—this area should be acquired by the public authorities and held for public use. Bathing beaches in particular ought not to be allowed to pass under private control, for in that case they will be privately exploited and the community will ultimately pay more for the privilege of using them than it would have cost to buy the land outright. Natural monopolies—using the term in the geographic sense—should belong to the community for the use of the whole people. Beaches, shores, mountains, and the like are natural monopolies, strictly limited in supply so far as any single city is concerned. They cannot be duplicated by human effort.

The Acquisition of Parks at a Distance from the Congested Sections of Cities.

In this connection some of the larger American cities, including Kansas City, Boston, and Minneapolis, have shown commendable foresight in acquiring large tracts of outlying land for future use. These tracts are made up of wild land, or lake or sea frontage, acquired at small cost, but possessing natural beauty. They give thousands a goal of exodus from the heat and jostle of the city. They are the great adult playgrounds. A generation ago such tracts would have been regarded as altogether inaccessible; today with the rapidly-widening use of motor transportation they are within easy range. The street railway companies have also co-operated to the extent of providing through service to these places of recreation, with extra facilities on Saturday afternoons, Sundays, and legal holidays.

A Difficult Problem in the Administration of Such Parks.

These public beaches, forests, and mountain reservations present some serious problems of reconstruction and maintenance. They should be so developed as to make them afford the greatest amount of pleasure to the largest number of people. But it is not always easy to accomplish this end without destroying to some extent the natural beauty and attractiveness of the region. The people, for example, desire cheap and rapid transportation to all parts of the reservation, but running a street railway through a park is one way of spoiling it. Furthermore, the sweltering crowds of workers from the tenement districts of the great city who resort in the summer to public beaches, woodlands, and other places of recreation have their own ideas as to what the city ought to provide for them. They want amusements—roller coasters, ferris wheels, pop-corn vendors, dime shows, dance halls, and all the other attractions of a county fair. They like, rather than resent, the bedlam which all this involves, and in the long run their desires usually prevail. There is also the problem of regulating and policing these resorts in the interest of fire-prevention, law observance, and public morals. When tens of thousands scatter themselves over extensive areas of public recreation the enforcement of regulations in the common interest becomes a task of considerable magnitude, and park departments sometimes find it necessary to maintain their own police for this purpose.

Private Contributions to a City's Park Facilities.

Parks are occasionally given to cities by public spirited citizens. Wealthy men and women have at times bequeathed their estates to the community on condition that the property shall

be perpetually dedicated to public use. Others have placed their property in the hands of trustees with provision for public or semi-public use. In many American cities there are parks and gardens which, although not owned by the municipality, are as serviceable to the whole people as though they were, inasmuch as they are open to everyone. Such, for example, are the spacious grounds which sometimes appertain to educational institutions, museums, and art galleries. A city's need for recreation grounds of its own will depend in some measure upon the extent to which such private and semi-private facilities are available. Their presence sometimes relieves the city from the need of making outlays which would otherwise be essential. Large gifts of money are occasionally received from private benefactors for the enlargement, improvement, and upkeep of municipal parks and other public grounds. Boston has received within the past twenty years gifts for this purpose amounting to several million dollars.

**The Waste of Public Money Due to the Lack of Comprehensive Park Plans.**

American cities have spent, and are still spending, very large amounts of money on parks and recreation spaces, but much of it has not been expended to the best advantage. This is because the park and recreation grounds have been acquired, for the most part, with no comprehensive or settled plan in mind. In New England the "common" has provided a nucleus, but from the standpoint of today's requirements it is not always appropriately placed. The action of cities in buying land for park purposes has been spasmodic and planless, guided by no comprehensive ideal and steadily influenced by the demand of ward aldermen or district councilmen that every section of the community should have its share. Many examples could be given to show the lop-sided and unbalanced nature of the public recreation facilities in the larger American communities due to the influence of political dictation. In this respect, however, most European cities are no better off. What most of them have does not meet the needs of today.

**Combining Parks Into a Park System.**

It is only within the past generation that American cities have attempted to link up their park lands into a system and to relate their future plans to this park system as a whole. This involves the bringing of isolated park units into connection with one another by means of parkways and boulevards. It is rather surprising that cities should have been so long in coming to this

policy. For many years they have recognized the need of a street system, a water system, and a drainage system; but even yet there are some which do not realize that parks and pleasure grounds ought to be similarly co-ordinated. Until they do realize it they will merely have several detached, unconnected, and partially-developed tracts of ground—the makings of a system but not a park system itself. Park development is not a mere incident of city planning but an essential feature of it. Indeed the whole city planning movement has been greatly accelerated by the arousing of popular pride in successful examples of park development. When a community sees with its own eyes the way in which a pestilential area can be transformed into a public garden or esplanade its people assume a more receptive attitude towards replanning projects in general.

Parkways and Boulevards.

A park system includes not only parks but parkways. A parkway is a street of more than ordinary width which is given a park-like appearance by the reservation of space for shade trees and shrubbery. Parkways are for pleasure driving and heavy teaming ought to be excluded. Some of them are links between two or more parks; others extend from outlying parks into the city. The former are usually winding roads, not intended to cover the shortest route between one park and another. The latter, connecting the outlying parks with the city itself, have for their principal purpose that of affording quick, easy, and cheap access. They are therefore straight and level, with provision for both automobile and street car traffic. In both cases the parkways form a part of the general street plan and may be used to some extent for ordinary street purposes. But the administration of parkways, more especially of the inter-park type, should be entrusted to the park department, not to the street department.

Relation of Park Administration to Other Administrative Problems.

It might be thought, at first glance, that the construction and maintenance of streets on the one hand, and of parks, playgrounds, athletic fields and parkways on the other, are sufficiently related to warrant their being combined under the jurisdiction of a single administrative department. A little reflection, however, will show that this is not the case. The problems of the street relate to construction, paving, lighting, and regulation of traffic; those of the park (once it is built) relate chiefly to equipment and management. In the case of playgrounds

these problems are principally connected with supervision and instruction; it is for this reason that playgrounds are often placed under the jurisdiction of the school department. But squares, neighborhood centers, athletic fields, public gardens, parks and parkways are alike in presenting a collection of problems which are sufficiently alike among themselves and sufficiently different from those of other city departments to warrant their being handled by a separate administrative authority. In small communities it may be allowable to include parks and recreation (along with streets, water supply, and public buildings) within the purview of a public works department; in larger municipalities this is not a prudent combination to make. The recreation activities of the modern city are expanding steadily in scope and cost; they are sufficiently important to have a department of their own.

The Newer Forms of Public Recreation.

These activities include not only the management of parks in the widest sense but the provision of public amusements such as games, band concerts, community dances, and public motion-picture shows. They comprise, in the larger cities, the maintenance of an art museum, a zoological garden, an aquarium, and various other institutions which combine recreation with public instruction. There was a time when all this was left to be provided by private initiative and private generosity. Today the city is taking over, step by step, the responsibility for providing its people with recreation and amusement at the taxpayers' expense. Opinions may differ as to the wisdom of providing free amusement for the great urban populace; some old-fashioned people denounce it as paternalism and point to the unhappy experience of ancient Rome in the matter of free public amusements; but it is necessary to face the fact that the cities of today have embarked upon this policy, have already carried it far, and are likely to carry it farther. And their action in this regard is not unlikely to be justified by its results, Rome's experience to the contrary notwithstanding. In any case the problems of public recreation have already become so numerous and so many-sided that they ought not to be turned over to some heavily-burdened construction department whose main activities are of an altogether different type. Parks and recreation make a good administrative unit.

The traditional plan of parks administration in American

cities is the board or commission method.[1] Fifty years ago almost every city maintained a park board of three or five members, elected by the people or appointed by the mayor, and usually serving without pay. This plan, so long as parks were few, and mostly of a uniform type, had its merits. It procured for the cities the time and thought of men who were deeply interested in this field of public service. But with the increase of parks in number and variety, and with the development of organized recreation as a public function, it has become steadily more difficult to manage this department efficiently through the medium of an unpaid board. In some of the larger cities, accordingly, a single commissioner has been appointed to give full time to the work of supervising a department of parks and recreation, although the board system is still widely in vogue and it has its ardent supporters. But whatever the plan of administrative organization, the parks ought to be, in every city, under unified control. There is little justification for the practice of placing different parks under the control of different boards, as in Chicago and some other cities, for such policy presents serious obstacles to the unification of a city's park and recreation system.

**The Organization of the Park Department.**

**Board v. Single Commissioners.**

When a city acquires park and pleasure grounds outside its own limits, as it often does, the problem of connecting these acquisitions by parkways is one of increased difficulty because these parkways must necessarily pass through other incorporated municipalities. On the other hand, when several cities and towns are clustered side by side in the same territorial neighborhood, there is an opportunity for joint use of recreation facilities which ought not to be lost. Bathing beaches, shore fronts, or mountain resorts may lie wholly within the boundaries of one city or town, although within convenient reach of others. The Boston Metropolitan District affords a good illustration. When such a situation exists it is apparent that the ends of economy and public convenience can be best served by having all the adjacent communities pool their resources into a comprehensive system of parks and parkways which shall be owned in common and available for use by the people of the whole district without distinction. The metropolitan park system of the Boston dis-

**The Integration of Metropolitan Parks.**

[1] F. L. Olmsted, Jr., "Park Department Organization," in *Landscape Architectural Quarterly*, Vol. IV, pp. 150-166 (July, 1914).

trict has been built up during the past twenty-five years by a state-appointed commission which has purchased and maintained various strips of ocean and river front, as well as large areas inland. These various tracts have been connected by parkways and are policed by the metropolitan authorities. The entire cost is pro-rated among thirty-one cities and towns.

The Increase in Value of Park Property.

The early acquisition of suitable park lands on the outskirts of growing cities is usually good financial policy. These outlying lands are steadily increasing in value; the longer a municipality delays, the more it will have to pay for them. There is very little danger that such properties, once purchased by the community, will be worth less than what was paid for them. Public buildings, pavements, and bridges depreciate with the efflux of time; parks grow more valuable. New York City, were it willing to sell Central Park tomorrow, could probably obtain enough money from the sale of this land to liquidate its entire municipal debt of about a billion dollars. To duplicate Central Park in any part of Manhattan Island would certainly cost much more than that. What is Fairmount Park worth in dollars today? Or Griffith Park in Los Angeles? Or Lincoln Park in Chicago? Or Boston Common? When Boston purchased the marshy tract known as The Fens, thirty-odd years ago, the cost was about four thousand dollars per acre; today this land is worth at least twenty-five times as much.

The Effect of Parks Upon the Value of Neighboring Private Property.

Parks not only appreciate in monetary value themselves, but they enhance the value of all adjacent private property. This increased value leads to the higher assessment of the private property and hence to more income from taxation than the city would otherwise obtain. It could probably be proved, if the figures were assembled, that most city parks have in this way brought in more money than they cost. So, where unusual opportunities are at hand, a city should have the courage and foresight to acquire park land for future use even though such action involves a present financial sacrifice. This does not mean, however, that the city should allow itself to be drawn into an orgy of land speculation, or that it should ever be persuaded to purchase park lands without a careful study of their location, suitability, and conformity with the city's general plans. The fact that a tract of land can be had for next to nothing is no sufficient reason for buying it. Cheap land may be costly to

develop into a usable park, garden, playground or athletic field, and may in addition be of dubious utility after it has been developed. This is a point that will bear reiteration. Cities would make fewer mistakes if they were willing to seek and to follow the advice of experts in the matter of land purchases.

Park Finance.

When land is bought for park purposes it is not usually practicable, nor would it be fair, to pay the cost from current municipal income. Payment for small squares and playgrounds may be provided for out of taxes, but a comprehensive park system cannot be financed in this way, and ought not to be. The land lasts forever; it is for the use of future generations, as well as for the present generation of taxpayers. Nay more, the future generations will derive the greater measure of advantage from it. In this respect a park is the antithesis of a public building. The park renders its smallest amount of public service during its earliest years; it grows in usefulness as time passes. Time must be allowed for the trees to grow up; for convenient routes of access to be provided, and for the surrounding neighborhood to become well populated. Only after all this has happened does a park attain its maximum utility. But public buildings begin to deteriorate from the day they are finished, and with the lapse of each successive year they fulfil their purpose less effectively.

Long Term Park Bonds.

Looked at from this angle it is wholly justifiable to pay for park lands by the issue of bonds and indeed to arrange the burden of interest and repayment so that it will fall more heavily upon future than upon present taxpayers. This can be done by postponing contributions to the sinking fund until say five or ten years have passed, or by making the serial bonds begin to mature a designated number of years hence.[1]

Parks Are, in a Sense, Reproductive Enterprises.

But it is hard to make legislatures and city councils appreciate this phase of municipal borrowing. They display a natural disinclination to authorize for any purpose the issue of loans extending over a long term of years. This attitude of conservatism, in the case of ordinary municipal improvements such as buildings, pavements, fire apparatus and so on is wholly commendable; but land purchases are in a different category. This ought to be taken into account when municipal debt limits are fixed by state constitutions or laws. Such debt limits often permit additional borrowing for what are called "reproductive"

[1] See *below*, p. 487.

enterprises; that is to say, a city is allowed to borrow beyond its debt limit for the extension of its water supply system, or its lighting plant, on the theory that such borrowing involves no increase in the actual debt burden because the loan will be "self-supporting"—interest and repayment coming out of the earnings of the water or lighting plant. Borrowing for the purchase of park land does not share this privilege, yet it is also "reproductive" in the sense that such investments procure an indirect revenue for the city through the increased value and assessment of adjacent private property. It is only right, accordingly, that park-land loans should be subjected to less rigid limits, in the matter of amount, term, and repayment methods, than are loans for ordinary municipal improvements.

**Paying for Park Lands by the Levy of Special Assessments.**

To what extent may the acquisition of park lands be financed by special assessments? The experience of cities throughout the United States indicates, as has been said, that the creation of a new park almost invariably causes an increase in the value of neighboring real estate. This increase manifests itself through a surrounding zone, and the total enhancement of private values is sometimes much larger than the cost of the park. It is a real estate axiom that residence property which is contiguous to parks can usually command a higher price, other things being equal, than similar property some distance away. (This does not apply, of course, to playgrounds and athletic fields.) Why, then, should not these private owners be required to bear a share of the cost? The answer is that in many cities a share of the cost, often a very large share, is being imposed upon them by the levy of special assessments. Kansas City, for example, has followed this method on a large scale. In some other cities the laws do not permit such assessments or, if they do, they limit the city's freedom of action to such an extent that the assessments are hardly worth levying.[1]

**Social and Political Aspects of Park Financing.**

Besides being fair to the city, the special assessment system has a salutary influence upon park-development policy. It compels a careful study of each district's needs and resources. So long as parks are paid for by the city as a whole, and not by

[1] A report on *Methods of Paying the Cost of Acquiring and Improving Parks, Parkways and Boulevards*, issued by the St. Paul (Minn.) Association of Public and Business Affairs (1920) explains the arrangements in twenty-five selected cities.

those whose property is benefited, the politicians of every district will insist upon having their share whether the district needs it or not. There is usually a notable falling-off in the demand for neighborhood parks whenever a city inaugurates the policy of asking each neighborhood to pay even a small share of the cost. On the other hand, the plan of making each section of the community pay for its own recreation grounds ought not to be carried to such an extreme that it leaves the poorer districts inadequately provided. Need is quite as important a factor as ability to pay.

Other Public Recreation Facilities.

The public recreation activities of the American city are being steadily extended. Most of the larger communities now maintain public baths; some have dozens of them, open throughout the year. Band concerts in the public parks, paid for by the city treasury, have long been a feature of European city life, but only with late years have they become common in America. New York City now spends more than $150,000 per year on this form of public recreation. A few cities maintain their own municipal bands and some have municipal orchestras. Many municipal auditoriums have been built during the past twenty years, notably those of San Francisco, Cleveland and Denver. Thus far, however, American cities (with one exception) have not emulated the example of Europe by establishing municipal theaters, although a few have undertaken to provide outdoor plays and pageants in the public parks during the summer. Considerable appropriations are made, in America as in Europe, for the celebration of public holidays in ways which afford recreation to large numbers of people.

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*Design, Equipment and Use* (New York, 1916), and W. T. Lyle, *Parks and Park Engineering* (New York, 1916). Frederick Law Olmsted's *Public Parks and the Enlargement of Towns* (Cambridge, 1870), is still of distinct value despite the fact that it was written over fifty years ago. There is a short chapter on Parks in A. P. Folwell's *Municipal Engineering Practice* (New York, 1916), pp. 390-407.

The latest general statistics relating to parks in the United States are those collected and published by the United States Bureau of the Census in 1916. Some figures were also published by the New York Bureau of Municipal Research in the same year.

Special reports on the park systems of individual cities have been published during the past twenty years, and many interesting papers on park problems (including problems of administration and finance) have appeared in the *Proceedings* of the National Conference on City Planning, published annually since 1909. The same is true of various periodical publications such as the *English Town Planning Review* (quarterly), *Landscape Architecture* (quarterly), *Der Städtebau* (monthly) and *The American City* (monthly). Many questions of practical park administration are discussed in the *Proceedings* and *Bulletins* of the American Park Institute.

# CHAPTER XXIX

## WATER SUPPLY

The human race must have recognized, even in its earliest days, the relation of water to life. Even the nomadic tribes had their movements guided by the location of oases and streams, and it is well known that the first civilizations developed along the shores of such rivers as the Nile and the Euphrates. Wells were common in ancient Egypt, and some of them appear to have been of great antiquity.[1] Likewise the practice of impounding water in reservoirs and holding it for times of need is known to have existed long before the beginning of the Christian era. There were great rain-water cisterns in Carthage as early as 150 B.C., and at Athens there were infiltration galleries for collecting ground water supplies. Water supply may therefore be regarded as one of the oldest among community requirements. It antedates fire protection, sanitation, poor relief, education, and most of the other activities upon which the modern city bestows so much of its attention.

**The Earliest Public Water-Supplies.**

The location of the earliest settlements was undoubtedly determined for the most part by two features, facilities for defence and the presence of water. But as these communities grew beyond original expectations the local supply had to be supplemented by bringing water from a distance. The cities of Greece, for example, had to go afield and bring water from the mountain springs through artificial channels. Aristotle, in his *Constitution of Athens* mentions the "superintendent of springs" as one of the important officials of the Greek metropolis. According to the testimony of Frontinus (who served as commissioner of Rome's water supply system) the people of Rome depended upon the Tiber and a few local wells until about 300 B.C. Then the city began the construction of aqueducts which, when they

**In Athens and Rome.**

[1] The most famous of these, Joseph's well at Cairo, was excavated in solid rock to a depth of nearly three hundred feet.

were all completed some centuries later, had a very large aggregate capacity. The water was for the most part of good quality but some of it was turbid. There were no filtering basins, but special interrupting chambers were used to eliminate the coarse suspended matter and so far as practicable the water from inferior sources was used for public baths while that which came clear was reserved for the drinking fountains.[1] The provincial cities of the Roman empire also had water-supply systems based sometimes upon sources many miles distant. Here also the art of water filtration was unknown, but occasionally the water was allowed to pass into basins and to remain there until the sediment formed. The salvation of the ancient community lay in the fact that the aqueducts drew from sources which happened to be above the range of ordinary contamination.[2]

Water Supplies in the Mediæval Cities.

The water facilities of mediæval cities, like their other municipal services, were very primitive. No city of mediæval Europe approached either Athens or Rome in the quality or the amount of water used. The old provincial aqueducts went into disuse and no new ones were constructed. Shallow wells and neighboring rivers were the sources of supply; both were polluted by the sewage which every rainstorm flushed from the streets. For ten centuries Paris drew its water supply from the Seine although the entire effluvia of the city was being absorbed by the river. Epidemics due to the pollution of wells and streams were of frequent occurrence, so frequent indeed that the large communities were never free from them. Water was nowhere piped into the houses; the people went to the rivers or wells with their earthen pots and laboriously carried home what they needed. Under such conditions the use of water was at a minimum. It has been estimated that ancient Rome in the early part of the second century A.D. used at least fifty gallons of water daily per capita; but as late as 1550 the amount of drinkable water supplied to Paris did not exceed one quart daily per head of the

[1] E. H. D'Avigdor, "The Waterworks of Ancient Rome" in *Engineering*, Vol. XXI, p. 403 (May, 1876).

[2] In some cases it was necessary to build aqueducts thirty or forty miles long. They were made of masonry and carried over the valleys on trestles of similar construction. It is sometimes said that this was because the Roman engineers did not understand how to siphon water across depressions. They did possess this knowledge, however, and applied it in a few cases, notably in the case of the aqueduct which supplied Lyons (Lugdunum), but it was usually easier to trestle the channels across.

population.[1] The age of chivalry was not an age of cleanliness.

The Development of Public Water Supplies in Modern Times.

From the fall of Rome to the Industrial Revolution no progress was made in the art of giving urban communities an adequate supply of water for human use. London was worse off in 1750 than Rome had been at the beginning of the Christian era. But the great changes which marked the incoming of the nineteenth century soon worked a revolution in this field. The cities grew so rapidly that the old sources were no longer adequate and new ones had to be sought.[2] Mechanical inventions, moreover, solved some of the old difficulties. The invention of the steam engine, for example, permitted water to be pumped in large quantities at relatively small cost. Cast iron pipes were also available after 1800, whereas aqueducts of stone and pipes of wood or lead had been the only alternatives before. Rapid urban growth, new inventions, and a wider diffusion of sanitary knowledge among the people created everywhere a demand for an enlarged and improved water supply. Where the regular municipal authorities could not respond to this demand private companies were organized to build reservoirs and bring water into the cities for sale to the householders. The first modern water systems in many European cities, and in some American cities as well, were planned and built by private companies. It did not take the municipalities long to realize, however, that public water supplies ought to be publicly-owned, and consequently very few water franchises were granted to private companies after the middle of the nineteenth century. Since that time the expansion in this field of municipal service has been extraordinarily rapid. In 1850 there were only eighty public water systems in the United States, in 1880 only six hundred, and today there are nearly six thousand. In Western Europe the progress has been almost as remarkable.

Relation of Water Supply to Other Municipal Activities.

The value of an adequate and suitable water supply is now appreciated by all classes of people. This branch of municipal administration is so closely related to the public health, safety, and convenience that its importance requires no long argument

[1] Joseph W. Ellms, *Water Purification* (New York 1917), p. 4.

[2] New York City had no adequate public water supply until 1842 when the first Croton aqueduct was completed. The city then had a population of over 300,000.

to establish. Even the semi-illiterates now realize that contaminated water may spread an epidemic through a whole community. The relation of an abundant water supply to the work of the city's fire-protection service is also clear to everyone. People do not always appreciate, however, the extent to which industries depend upon the public water supply, neither do they realize the vast quantities which the industries use. They have little conception of the volume of water which passes daily through the mains beneath the city streets.

The Per Capita Use of Water Today.

How much water does a modern city require? Water consumption is usually figured in terms of gallons supplied daily per head of population, taking the average in each case for an entire year. The figures include all water pumped into the mains, without deduction for wastage. On this basis the amount varies in different countries, in different cities within the same country, and at different periods of the year. European cities do not use, on the average, more than fifty gallons per capita each day; some of them use considerably less. The figures are lowest in cities like Constantinople and Warsaw; highest in the municipalities of Great Britain, France, and Germany. In the cities of the United States the daily per capita consumption rarely runs much below one hundred gallons and it is frequently much larger. Water consumption depends on four factors—the relative amount of waste, the number and nature of the industries in the city, the percentage of the service which has been metered, and the general sanitary traditions of the people.[1]

The Four Factors in Water Consumption.

Reduced to avoirdupois a hundred gallons of water is nearly half a ton. The average urban family contains between four and five persons; by a little mental arithmetic it appears, accordingly, that American cities are supplying nearly two tons

[1] The smaller consumption in European cities is due, most of all, to the lack of plumbing fixtures, but in some degree it is also due to the practice of metering all services. Waste in the mains has also been cut down, in most European cities, to a minimum. There is a far less general installation of sanitary appliances in Europe than in America, especially in tenement houses. Some sociologists believe that the degree of civilization which a city has attained can be ascertained by looking at its figures of per capita water consumption; but this is true to a very small extent, if at all. A very high water consumption may be an indication of sheer wastefulness and negligence; it may mean that leaky mains are allowed to go unrepaired through penny-wise economy, or that waste in the factories and homes is encouraged by charging a flat rate for water irrespective of the amount used.

of water per day for every family within their bounds. But what does any household do with two tons of water daily? The answer is that no such amount goes to any household or is used for domestic purposes. A considerable portion of the "hundred gallons per capita" is used by the public services, or by industries, or is wasted on its way through the mains. Not one gallon in three usually gets to the household tap. To begin with, the city itself is a large user of water, for putting out fires, watering parks and streets, flushing sewers, as well as for supplying public fountains, watering troughs, sanitary stations, and all sorts of public buildings. City officials have an idea that water costs nothing and they are not parsimonious in their use of it.[1] This public use of water may easily amount to ten per cent of the whole supply. Factories, railways, dockyards, hotels, and stores are also large customers. Some industries, it is true, use relatively little; others, such as laundries and dye works, use a great deal. Railroad and steamship terminals make heavy demands; so do all buildings which use steam power, or hydraulic elevators, or various other water-consuming appliances. Hotels, shops, and markets help to swell the figures. This industrial consumption varies enormously in different cities. Sometimes it is next to nothing; in other cases it equals or even exceeds the domestic consumption.

1. Public Services.

2. Industrial Use.

Waste is also a factor to be reckoned with everywhere. One of the most eminent water-supply engineers in the United States is authority for the statement that "taking it right through, probably one half the water supplied to American cities is wasted."[2] Some of this waste is unavoidable because breaks and leaks in the underground mains are bound to occur in spite of the most scrupulous care, and they cannot always be

3. Wastage.

[1] Some cities have cut down the amount by metering every public building and charging each department (police, schools, etc.) for water used. There is a popular impression that the fire department uses a great deal of water in its work. This is merely because we see the streams being poured upon fires without stint. But the fact is that the industries of a city will usually consume more water in a single week than the fire department uses in the entire year. In Boston some years ago it was figured that the public buildings used more than twenty times as much water per annum as the fire department. F. E. Turneaure and N. L. Russell, *Public Water Supplies* (New York, 1913), p. 19.

[2] Allen Hazen, *Clean Water and How to Get It* (2d edition, New York, 1914), p. 52.

detected and repaired at once. But a considerable part of it, as frequent water-surveys have shown, is the result of official negligence or of false economy. Mains leaking at the rate of many thousand gallons per day are often left unattended to, week after week, until somebody's cellar becomes flooded and a claim for damages is entered. Waste also takes place, on a much larger scale, by reason of defective fixtures in business establishments and dwellings. A reasonable allowance for waste due to all legitimate causes would be about ten per cent; the actual wastage is usually from twice to four times as much, depending upon the amount of care with which the mains are tested for leakages and the extent to which private services are metered.[1]

4. Domestic Use.

It will thus be seen that the water supplied for domestic purposes is very much less than the total daily supply. Thirty to fifty gallons per head of population will usually suffice for all home uses—for drinking purposes, cooking, washing, cleaning, and sanitation. Domestic consumption is relatively larger in the better sections of the city than in the poorer districts and is to some extent dependent upon the system of charging for water used. An increase in water rates has little effect in the homes of the well-to-do; but it usually brings a more sparing use of water in the tenement areas.

These Various Uses Cannot Well be Kept Separate.

This brief analysis of water-uses may have already suggested to the reader a query why so much emphasis is placed upon supplying "pure and wholesome water" when so little of it, relatively, is used for human consumption. So far as ninety per cent of a city's water consumption is concerned, there is no need for bacteriological purity. Germ-free water is not essential for putting out fires, watering streets, cleaning sewers, dyeing silk, filling steam boilers, sprinkling lawns, and flushing toilets. But since that portion of the water which is destined for human consumption cannot easily be separated from that portion which is not—there is nothing to do but make it all of uniformly good quality. It is for that reason that cities go to the great expense of protecting their watersheds, storing water in reservoirs to

[1] Some allowance should always be made, however, in estimating the total amount of water pumped into the mains, for errors due to the slip of the pumps, and, in the case of metered services, for the tendency of meters to under-register when they become old or out of repair.

improve its quality, filtering it, and guarding it at every point against pollution.

How the Wastage of Water May be Reduced.

There is general agreement among water-supply engineers on the proposition that the total per capita consumption in most American cities is needlessly large and that efforts should be made to reduce it. This reduction can be accomplished in various ways, as some cities have demonstrated, without restricting the legitimate use of water. Wastage in the mains can be cut to a minimum by systematic tests covering at frequent intervals all portions of the city.[1] The practice of charging each city department for all the water that it uses is sometimes stigmatized as a case of robbing Peter to pay Paul; but it is in fact the only effective method of discouraging the waste of water in public buildings. A significant decrease in the per capita consumption also results from the extension of the meter system to factories, hotels, and other large buildings. So long as a fixed rate is charged, irrespective of how much or how little water an industry or a household may use, the temptation to wastefulness is apparent. Leakages in fixtures go unrepaired and cause no worry because they have no effect on the water bills. Taps are left open without heed to wastage. An interesting illustration of this has been given in some northern cities where, strange to say, the peak of the water consumption is usually reached during the night hours of a winter cold-snap. One might suppose that the maximum load upon the city's water supply would come during the day hours of a summer hot spell, but that is not always the case. The reason is, of course, that letting the faucets run is a good way to keep water pipes from freezing, and where the service is unmetered this practice has the merit of putting the expense on the city, not on the householder. The avoidance of this and other forms of water waste is becoming year by year more imperative because the cities are steadily requiring greater quantities of water for legitimate use. It is quite true that the water resources of the United States are enormous, but they are not all within easy reach of the large communities.[2] Consequently it is becoming necessary for

[1] The test is made by attaching a Venturi meter or some similar device to the water main and then determining by the pressure whether there is an excess flow.

[2] F. H. Newell, *Water Resources Present and Future Use* (New Haven, 1920),

the great cities, both in Europe and America, to go farther afield for their water supplies, or, if they draw from sources close at hand, to install expensive purification plants. Good water, like every other marketable commodity, is becoming more expensive.

The Sources of Public Water Supplies.

The chief sources of public water supply in all countries are ground waters, lakes, impounded watersheds, and rivers. Wells are used by many smaller cities throughout the world and have been for centuries, but when urban growth passes a certain point the yield from driven wells usually proves insufficient and resort must be had to other sources of supply. There is an impression among laymen that water drawn from driven wells is always safe for public use, but this is not invariably the case, and the water, moreover, is sometimes unsuited for either individual or domestic use until after it has been softened by chemical treatment. The same is true of water drawn from natural springs. Some cities obtain their supplies by tapping old river formations which have become filled with porous matter. In seeking ground-water sources it is essential to study the geology of the region. Lakes, both great and small, furnish the water supplies for many communities in all parts of the world. Nearly all the cities and towns on the Great Lakes of America draw directly, and most of them without filtration, from these vast bodies of fresh water. The Great Lakes receive a large amount of sewage from these same communities, but the dilution has thus far been so large as to preclude serious danger from it. Some cities, both at home and abroad, have been able to find no simpler method of securing an adequate supply than that of consolidating the flow from all the small streams in an adjacent watershed. The outflow of these streams is then diverted into basins or reservoirs where it is stored until needed. Berlin, Paris, New York, Boston, and Baltimore all use this impounding plan. At times a single river may afford a sufficient supply for a large city, but in such cases the water has usually been polluted upstream and is unfit for use without filtration. London draws from the Thames, St. Louis and New Orleans from the Mississippi, Cincinnati from the Ohio, Washington from the Potomac, and Philadelphia from its two adjacent streams, the Delaware and the Schuylkill, but in all these cities there are elaborate water-treatment plants.

Ground Waters.

Lakes.

The Impounded Flow from Small Streams.

Rivers.

There is, accordingly, no best source of supply for all cities. Topography is kind to some cities in this respect and unkind to others. Each community must determine, in accordance with the extent of its own needs and the nature of the surrounding country, how it can best solve its problem with the least outlay. Glasgow, for example, is fortunate in being able to draw from Loch Katrine, which nestles high in the hills only a few miles away. Paris, on the other hand, pipes its *eau potable* from the Vosges mountains, New York has had to tap the Catskills (a hundred miles distant), while Los Angeles, for want of a better alternative, fetches its water all the way from the Nevada frontier, a distance of over two hundred and fifty miles. Whether to go far afield for water which is naturally good, or to filter the supply from a polluted source near at hand is largely a question of relative cost.

The Available Sources Are Determined by Topography.

The expression "pure and wholesome water" may seem to be a simple one, but when it comes to elucidating the exact meaning of these words the problem is not so easy as it looks. In an absolute sense no water is "pure" until it has been artificially treated. To be "wholesome," moreover, and thoroughly satisfactory for all forms of public and private use, water must be clear and odorless, without taste or color, reasonably soft, free from pathogenic germs, and of a proper temperature. No raw water ever satisfies all these requirements; all natural waters contain some foreign substances in solution or in suspension. So purity is a relative term. When water is drawn from rivers or shallow lakes it may be reasonably free from noxious bacteria, but it is often murky or turbid, especially in the spring or after heavy rainstorms. This necessitates the construction of reservoirs or sedimentation basins in which the water becomes clarified through storage, the small atoms of mud and sand being allowed to settle to the bottom. The clarifying process may be expedited by the use of a chemical coagulant, such as alum or sulphate of iron.[1]

The Essentials of Good Water.

Water from small lakes or streams is sometimes slightly discolored as a result of contact with algæ and other growths. Discoloration may also result from contact with dead leaves,

The Discoloration of Water.

[1] When alum was first used for this purpose there was considerable prejudice against it. In St. Louis the proposal to adopt the process gave rise to the slogan, "We don't want puckered water."

peat, or certain soils. Exposure to sunlight for a sufficient period in a shallow reservoir will bleach the water and reduce or eliminate the bad color. The presence of algæ in sufficient profusion may also give water a perceptible taste and odor.[1] The cleaning of the lakes, streams, and reservoirs is one way of keeping them free from algæ, but when this does not suffice the water may be decolorized by aeration or by filtration. Odors and tastes sometimes result from the stagnation of water in reservoirs or lakes. The upper layer of water is kept in circulation by the wind while the lower stratum is not similarly aerated. Then twice a year, in spring and autumn, the whole body of stored water turns over with the result that the odors and tastes from the stagnant lower layer are mixed with the rest.[2] For satisfactory use in many industries, such as dyeworks and paper-making factories, water must be absolutely colorless. The aeration of water by passing it over spillways is a substantial help in removing both color and odors. New York City, in connection with the Catskill supply, has constructed some extensive aeration works.[3]

Softening Public Water Supplies.

Again, when the water is too "hard," in other words when it contains too much lime, it is poorly adapted to household use. More soap has to be used than with softer water. In extreme cases it is sometimes necessary to soften the water by treating it with soda in water-softening plants. Such plants are now operated in connection with the public water supply systems of several American cities. Finally, as everyone knows, warm water is disliked by most people for drinking purposes. Water which has a higher temperature than 65° Fahrenheit during the

[1] In spite of all the study that has been devoted to algæ the natural laws which govern their appearance and growth are not yet fully understood.

[2] Allen Hazen, *Clean Water and How to Get It*, 16-17. In rural communities there are various superstitions concerning the cause of this semi-annual turnover in lakes and ponds. The explanation is simple enough. Raw water attains its maximum specific gravity at 39.2 degrees Fahrenheit. In the late autumn, when the temperature of the air drops to the freezing point or thereabouts, the top layer of water in the lake, pond, or reservoir is chilled to the point where it becomes heavier than the warmer stratum of water below. It sinks, therefore, and forces the latter towards the top. In the spring, again, the process is repeated when the top layer warms up to the point of maximum specific gravity.

[3] In 1917 the New York Department of Water Supply, Gas and Electricity published a booklet containing an interesting description of *The Municipal Water Supply System of the City of New York.*

summer months is unpalatable. In the main the temperature of the water at the tap depends upon the source from which the supply is drawn. Ground water supplies maintain a lower temperature than those drawn from surface areas. Apart altogether from the question of pathogenic purity it is no simple problem, therefore, to supply the people with water which is clear, tastless, odorless, colorless, and cool.

The Dangers That Lurk in a Water Supply.

Most important of all, however, because it is so closely related to the public health, is the sanitary quality of the public water supply, in other words its relative freedom from disease-producing organisms. These organisms, popularly known as microbes, bacteria, bacilli, or germs, usually gain access to the sources of water supply through the flow of sewage into it. Their presence in the water cannot be definitely ascertained except by chemical and bacteriological tests, although the probability of pollution can sometimes be determined by an inspection of the surroundings. Water analysis requires the services of a skilled bacteriologist.[1] The results of the test are commonly expressed by saying that colon bacilli (*B.coli*) are present or are not present in so many cubic centimeters of water.[2] The finding of *B.coli* in water is accepted as a definite, although not as an absolutely conclusive, indication of pollution by sewage. The attempt to detect the actual presence of typhoid bacilli (*B.typhosi*) is not usually made because the task of isolating and identifying these particular members of the colon group is somewhat difficult.

Water as Carrier of Typhoid.

Typhoid is the most serious and the most common of all water-borne diseases.[3] It must have scourged the world for many centuries, but we have no way of measuring the extent of its ravages, for typhoid was not differentiated from any other kind of "fever" until less than a hundred years ago.[4] During

[1] On methods of water analysis see G. C. Whipple, *The Microscopy of Drinking Water* (New York, 1914), and American Public Health Association, *Standard Methods for the Examination of Water* (4th edition, Boston, 1920).

[2] There is no direct method by which the approximate number of *B. coli* in a given quantity of water can be determined.

[3] Typhoid is not, however, the only disease transmitted by polluted water. Cholera, dysentery and other intestinal troubles are sometimes caused by it. G. C. Whipple, *Typhoid Fever: Its Causes, Transmission and Prevention* (New York, 1908).

[4] The specific bacillus (*B. typhosus*) was not isolated until 1880.

the greater part of the nineteenth century it was a prolific contributor to high urban death rates in all countries, but in the last four or five decades the mortality from this disease has been steadily coming down. As an example of the progress which has been made in this direction it may be mentioned that during the American Civil War the losses from typhoid exceeded the number of those killed in action; in the World War the American expeditionary forces had almost no losses from this source at all. The protection of water supplies, the chlorination of water, and the anti-typhoid inoculation of the troops, combined to bring about this result.[1] In the larger cities of the United States, thirty years ago, the annual death rates from typhoid often ran as high as sixty or even eighty per 100,000 population; today it is everywhere below twenty, and usually below ten.[2] In the principal European cities it is even lower. The day is approaching when typhoid will be as uncommon, in all civilized communities, as smallpox, yellow fever, and bubonic.

**The Methods of Safeguarding a Water Supply:**

The security of the public water supply from typhoid bacilli can be effected in various ways. One method is to protect the sources of supply against pollution. Raw water is not dangerous to public health except insofar as human action or negligence has made it so. If lakes and catchment areas are adequately guarded against contamination, by diverting all sewage and polluted surface-water, the public supply can be drawn from them with impunity. But the protection must be absolute, complete, and continuous. It involves the enforcement of strict regulations and the constant policing of lake shores or watersheds.

**1. Protecting the Catchment Area.**

**2. Storage.**

Water which is only slightly polluted may be made safe for human consumption by storage for a sufficient period in reservoirs. Disease germs do not multiply in impounded water, at least not when exposed to air and sunlight. On the contrary

[1] There were fewer than 2000 cases among four million men at home and overseas. Had the death rate for the World War been as high as that for the Spanish War, the American army would have lost, during the years 1917-1918, more than 60,000 men from typhoid alone.

[2] In Providence, Rhode Island, a city of 240,000 population, there was not a single death from typhoid during the year 1922. This is a phenomenon without precedent in medical history and vividly illustrates the direction in which things are tending.

they decrease rapidly after a few days, and ultimately disappear. The length of time needed to secure this natural purification by storage depends on the degree of pollution, but under ordinary conditions a period of sixty days is deemed to be sufficient.[1] The danger is that by some mishap the polluted water may get into the mains without having been retained in the reservoir for the full interval. Many large cities, including New York and Boston, depend upon storage as well as upon the protection of the catchment areas for the safety of their water supplies. The color of water, especially when due to organic matter, is also lessened by storage; but the bleaching or decolorizing action of sunlight does not extend to the lower layers of the stored water.

3. Disinfection.

A third method is disinfection. The most common plan is chlorination, or the sterilization of water with chloride of lime or with liquid chlorine. When chloride of lime (commonly known as bleaching powder) is used, the customary process is to dissolve it in water and apply the solution in small quantities at the intake. Pure chlorine, commercially known as liquid chlorine, is now coming into more general use for water disinfection. Either process is simple, and relatively inexpensive. In the case of water which does not carry too much suspended matter the chlorine treatment secures a high degree of bacterial removal.[2] But chlorination does not make muddy water clear, nor can dirty water be made suitable for human consumption by merely dosing it with a chemical substance. Neither does chlorination always make water safe. Certain spore-forming bacteria, which are capable of producing dysentery, are not destroyed by chlorine disinfection. Disinfection, therefore, ought to be regarded as an emergency method, or a supplementary method of water treatment, not to be depended upon permanently and alone. Its highest service is rendered as an adjunct to storage, sedimentation, or filtration, or in any emergency where the

[1] Experiments have shown that water from the Thames containing 770,000 bacilli per c. c. could be rendered safe for human consumption by storage for a period of a few weeks at normal temperature. The higher the temperature of the water the shorter the life of the organism. A. C. Houston, *Engineering Record*, Vol. LXV, p. 608 (June 1, 1912).

[2] The chlorination of their water supplies is now being carried on, usually as a supplement to filtration, or storage, or some other form of mechanical treatment, by a large number of American cities, including some of the biggest among them.

effects of water pollution cannot be promptly dealt with in any other way.[1]

4. Filtration.

The filtration of a public water supply is in many cases the only satisfactory method of making it suitable for both industrial and domestic use. Water filtration is largely the product of the past fifty years, for although there were filtering works in European cities as early as 1860, the first large municipal filtration plant in the United States was not constructed until 1893.[2] Twenty-five years ago fewer than two million people were being supplied with filtered water in the United States; today there are probably twenty-five million or more. The filtration processes have had, and are still having, a remarkably rapid spread.[3]

Types of Filtration:

(a) Slow Sand Filtration.

There are two types of filtration plants, namely, the English or slow sand filtering process, and the American or mechanical filtration method. The slow sand filter is man's adaptation of nature's methods as used in river beds where water percolates through layers of sand and gravel until it reaches springs or wells in a clarified condition. The construction of a slow sand filter is simple. A large water-tight basin, usually of concrete, is built with suitable under-drains or outlet pipes underneath. The basin is then partly filled with broken stone and covered with sand. Raw water from the lake or river is allowed to flow in at the top of the basin and to work its way through the sand and stone to the outlets below. During this process the bacteria and suspended particles of matter which happen to be in the water adhere to the grains of sand or to the film which forms on them. The slow sand filter removes 99 per cent or more of the bacterial content, but it does not in all cases eliminate taste or discoloration. Hence it is sometimes necessary, when the raw water is badly discolored, to employ some supplementary treatment, such as aeration, or to run the water through the filters a second time. Slow sand filtration, coupled with aeration, is said to eliminate tastes and odors better than any other method of water treatment. The slow sand filter, however, is not

[1] There are other methods of disinfecting water, notably ozonization. This process, while theoretically sound, is rather expensive. The use of the ultra-violet ray has also been tried, but not on a large scale.

[2] This was the sand filter at Lawrence, Massachusetts. It was followed in 1899 by a larger plant at Albany.

[3] For treatises on the subject see the list of references at the close of this chapter.

well adapted for use with waters which, like those of the Ohio or Mississippi, are turbid or muddy. The mud soon covers the face of the filter and clogs it. Even with relatively clear waters, such as those of the New England rivers, the surface of the filters must be cleaned at intervals. Sand filters are built in such way, therefore, as to permit one or more of them being out of use at a time.

(*b*) Mechanical Filtration.

The other type of filtration plant, the rapid or mechanical filter, has been coming into more general use during recent years. There are several types of mechanical filter, but all of them use a bed of sand three or four feet thick enclosed in a covered tank or container made of concrete, bronze, or other durable material.[1] The raw water, having first been treated with a chemical coagulant, is forced under high pressure into this container where it passes down through the sand at a rapid rate leaving the coagulated particles to accumulate on top of the bed. Daily or oftener this top layer of sediment is cleared off by forcing water or air through the filter in the opposite direction.[2]

The Two Filtration Methods Compared.

There is a popular impression, somewhat encouraged by filter construction companies, that these two filtration plans are rival processes, either of which a city may choose at its discretion. Sanitary engineers are well aware, however, that this is not the case. Each method has its own appropriate field. The mechanical filter is preferable where the water is muddy but not badly polluted. It is effective in removing a large percentage of the bacteria; how large is a matter of disagreement among the experts. Even at the worst, however, the water can be chlorinated after it comes from the mechanical filter and thus rendered safe. With a sufficient use of coagulants the mechanical process removes all turbidity and discoloration. By using this process a city is able to handle about one hundred million gallons per acre of filtering area daily,—the normal supply for a million people. Mechanical filters are usually less expensive than slow sand filters to install, but more expensive to operate. The selection of one or the other method depends upon local conditions; it cannot be determined by any general rule. The nature of the

[1] The types differ as respects size, shape, methods of cleaning the filter, methods of using the coagulants, and so on.

[2] A full description may be found in Joseph W. Ellms, *Water Purification* (New York, 1917), pp. 173-255.

raw water, whether clear or turbid, discolored or not, badly polluted or not, is the most important factor but not the only one. Consideration must also be given to what sites are available and what they cost, likewise to what the city can afford to spend.[1]

Water Reservoirs.

After water has been filtered it is generally stored in reservoirs until needed, these reservoirs being necessary to ensure that the city will have a reserve supply in case of conflagration or drought. Such reservoirs should be covered, for filtered water deteriorates when exposed to strong light, particularly in warm weather. The reservoirs must also be guarded against pollution. Fresh pollution in the reservoir is much more dangerous than original pollution at the source.

Water Pressures.

The correct and safe location of water mains, the determination of proper water pressures, and the designing of the pumping plants are engineering problems which must be carefully worked out if the public water system is to function satisfactorily. No matter how excellent the water itself may be, no system of public supply will give full satisfaction unless the arrangements for distribution receive their appropriate share of attention. One of the chief considerations is that of pressure in the mains. The reservoirs, mains, and pumping plants of the older water-supply systems were located and designed with moderate pressures in mind. Today much higher pressures are needed because buildings are taller and cities have in many cases spread to higher land than that originally occupied. To meet this requirement some of the old reservoirs have had to be abandoned, new pumping plants installed, and old mains replaced. An increase in pressure adds to the cost of pumping and also involves an increased waste of water when breaks or leakages occur in the mains. For all ordinary purposes a pressure of from fifty to one hundred pounds per square inch at the city's lowest level is sufficient, but for high-pressure fire-protection hydrants twice or three times this figure is needed. The high-pressure system is therefore provided with separate mains of special size and strength.

[1] Some cities are now using double filtration, that is, mechanical filtration followed by slow sand filtration. Poughkeepsie, N. Y., is a good example. In dealing with a badly polluted supply, double filtration is said to be by all means the safest process.

The Distribution System.

Another essential is to have mains large enough to supply water (especially to industries) in the quantities needed. Many cities have failed to make adequate provision for the enormously increased industrial demands that are coming upon them. They have figured their probable increases in population liberally enough, of course, but have not usually added a sufficient margin for increased consumption per capita. So six inch pipes have often been put down where ten inch mains become necessary within five or ten years. This replacement of sound but inadequate mains has been a source of great and often inexcusable waste, involving, as it does, the wholesale tearing-up of street pavements. Here is another branch of municipal administration in which judicious planning, guided by expert advice, would result in large savings.[1] It has been estimated that about one-fourth of all that has been expended on public water supply systems in the United States is an atonement for the absence of planning or for the use of badly designed appliances.

Water Supply Financing.

The amount of money invested in the public water supply systems of the United States at the present time is well in excess of a billion dollars. Annual expenditures for improvements, equipment, and new construction are at the rate of more than fifty millions per year. In most cities the work of laying mains and installing meters is done by the regular employees of the water department, but new construction (basins, reservoirs, pumping plants and high pressure services) is usually carried on under the contract system. To some extent the initial cost of extensions and equipment has been paid out of surplus income from the water rates, but for the most part it has been defrayed by borrowing money,—by the issue of water bonds. The interest upon these loans, and the contributions to the sinking funds necessary to extinguish the loans at maturity, are charges upon the water revenue and are not usually paid out of general taxes.

[1] Distribution pipes are often laid in the same trenches with sewer mains. There is no danger of pollution involved in this practice since the pressure on the water mains is always outward; but intake pipes must always be kept as far removed as possible from sewers and drains. "I believe there is a negative pressure exerted at certain times, as when a fire hydrant is turned on. This negative pressure would give an opportunity for water outside the main to leak in through open joints. I believe there are known instances where this has occurred and where a contamination of the water resulted." H. B. Wood, *Sanitation Practically Applied* (New York, 1919), p. 324.

The general policy—not altogether defensible—has been to look upon the municipal water supply as a "reproductive" enterprise, able to pay its own way and perhaps contribute a little to the city treasury besides. Water rates have accordingly been fixed on a scale sufficient to pay all overhead charges and all costs of operation including ordinary renewals.[1] In addition it is customary to make no charge for water used in the various city services such as parks, fire protection, streets, and public buildings.

**Water Rates.**

It is difficult, year in and year out, to fix the schedule of water rates in such way that there will be neither surplus nor deficit. The expenses of operation vary with wages and prices and these may undergo a marked increase within a very short time, as happened during the years 1917-1920. But when a schedule of rates is once fixed there are both practical and sentimental objections to changing it. People seem to object more strenuously to increased charges for water than to a corresponding rise in the rates for gas or electricity. So the city authorities, in their desire to avoid a political rumpus, often keep an old schedule in operation long after it is out of gear with the costs of operation.

**The Fixed-Rate, Classified, and Meter Systems of Charging for Water.**

As to the methods of arranging the schedule of water rates there has been a great diversity of practice; one might almost assert that no two cities have done exactly alike; but the various schedules can be grouped into three categories. These are the fixed-rate system, the classified system, and the meter system. Selling water at fixed rates, irrespective of the amount used, was common in American cities, especially in the smaller ones, a generation ago. But the objections to this method soon become apparent; it was uneconomic, unfair to the small consumer, and encouraged wastefulness. Thereupon many cities adopted the plan of classifying their consumers according to the nature or value of the premises served, or according to the size of the connection between premises and water main, or according to the

[1] In reckoning "overhead" charges no account is taken of the city's *equity* in the plant, that is, its value above the bonded indebtedness. In some cities the value is two or three times the total amount of the outstanding loans. It is sometimes argued that this equity should be treated as though it were common stock and that the city treasury should receive dividends on it. Otherwise the water consumers are getting the free use of property which belongs to the general body of taxpayers.

number of faucets in the house, or on some other basis. Each service was thus given a special rating which was assumed to bear a rough approximation to the amount of water used. This plan represented a step in the direction of greater fairness, but it was not effective in preventing waste and it aroused much discontent among consumers who often discovered that their neighbors were paying less and using more than themselves. So the practice of metering each individual service ultimately came into vogue and of late years it has been extending rapidly. In some cities practically the entire service is now on a metered basis; in others this situation is being reached as rapidly as the meters can be secured and put in place. Under the meter system it is usual to fix a certain rate per hundred cubic feet for water used up to a designated amount, with a lower rate for all water above this amount. Some cities and some water companies have an elaborate sliding scale of rates in which a differentiation is made between the industrial and domestic use of water.[1]

**Advantages of the Meter-Rate System.**

The merits of the meter system are easy enough to discern. There is no good reason why water, being a marketable commodity, should not be sold like other merchandise. Water and gas cost about the same per hundred cubic feet, yet no one expects to buy gas on a fixed-rate basis. A measured service is fair to all, including the city which sells the water, and it has the great merit of providing a check upon waste.[2] On the other hand, the general installation of meters necessitates a large investment, and the cost of maintaining them is also large, for meters get out of order, deteriorate, and in time have to be replaced. There is always a good deal of popular opposition to the policy of metering the water service; some of it is inspired by large consumers (including the newspapers) who find that it increases their water bills, and some of it by philanthropic workers who claim that the installation of meters discourages the legitimate use of water for sanitary purposes in the poorer sections of the city. Some resentment is also attributable to the fact that the schedules often impose lower rates per hundred

[1] There is a full discussion of the subject in Allen Hazen's *Meter Rates for Water Works* (New York, 1918).

[2] Unhappily it does not seem to be a permanent check. The installation of meters will reduce the per capita consumption temporarily, but after a few years the people grow careless again.

cubic feet upon large industrial consumers than upon private families. In spite of this opposition, however, the meter system continues to make headway. Water-department authorities are a unit in favor of it.

The Water Department: Present Organization.

In many cities the water department is still controlled by a board, usually of three or five members. Only in smaller communities are these water commissioners now elected by popular vote; in the larger ones, as a rule, they are appointed. There are objections to the board system as applied to the management of this department and the general tendency is to get away from it. In the smaller cities, however, where the cost of employing a single commissioner would impose an excessive burden, the unpaid board has a very practical consideration in its favor. In the larger cities, on the other hand, there is much to be said for the single-commissioner plan.[1] Not only is the work in the highest degree technical, but it so intimately concerns the health of the people that no chance of mishap through the interplay of politics or of personal jealousies should ever be taken. Sometimes a water commissioner gives his full time to this work alone, but more often he combines it with other functions. In New York City, for example, there is a "Commissioner of Water Supply, Gas and Electricity" appointed by the mayor; in Boston the management of the water service is grouped with the care of streets, sewers, and bridges under a commissioner of public works. But however related to other branches of city administration, the water-supply service always forms a separate division or bureau, with a special superintendent or deputy commissioner in charge. Its importance demands that it shall have at least this recognition.

Interior Organization of a Water Department.

Whether it be ranked as a separate department or dealt with as a division of some larger field like public works or public ultilities, the proper internal organization of a water department presents some administrative problems. Several functions of a widely differing character come within its jurisdiction. The work of a water department is, of course, largely of an engineer-

[1] My colleague, Professor George C. Whipple, for whose opinions on this as on every other matter of sanitary engineering and administration I have a profound respect, tells me that in his judgment the water board with its water superintendent usually got better results than the more modern water-commissioner system.

ing character, dealing with plans, construction, maintenance, and repairs; but it also includes such matters as water analysis and water purification, things which call for the help of sanitary experts; and it must take care of the financial end of the business, which includes the work of fixing rates, keeping accounts, and collecting bills. A well-organized water department must make provision for the proper handling of all these things. This does not mean, however, that all of them must be done by the department's own officials; to attempt this in smaller cities would involve needless duplication. Except in the larger cities where there is work enough to employ a separate engineering staff for the water department alone, the plans and specifications needed by the water department can be provided by the city engineer's office. The collection of water bills, again, may be turned over to the office of the city treasurer or collector of taxes, unless the work is sufficiently extensive to demand the establishment of a special income bureau within the water department itself. In the smaller cities, accordingly, the problem is that of cooperating effectively with the other departments.

**The Water Department and Civil Service.**

So far as its subordinate officials and employees are concerned, the water department lends itself very well to the policy of selection on a civil-service basis. Its problems, as has been said, are largely technical. With the exception of the laborers employed in the work of construction, extension, or repair, the employees of a water department are intrusted with functions which require a high degree of intelligence. Miscalculations in the laying of mains, errors in water analysis, and mistakes in water accounting are all easy to make, and indeed they are almost certain to be made with costly repetition unless the city takes reasonable precautions to keep political patronage out of the department. In a day when the laws require that even the village pharmacist shall be rigidly examined and licensed because otherwise his *gaucherie* might bring death or illness to some customer, is it not an anomaly that any city should tolerate the blunderings of political spoilsmen in such vital matters as the adequacy and safety of water supply, the engineering problems of reservoirs, pumps, mains, and pressures, and the highly technical questions of water analysis and water purification? Practically every regular position in the city's water department involves duties of a definable nature, and whether or not a man

is capable of performing them can be determined by means of a practical test. A typhoid epidemic is one of the penalties that a community is likely to pay for keeping its water department under the sway of the politician, and a drastic penalty it is. The assertion has been made by health experts, and there is some force to it, that for every outbreak of typhoid due to water impurities somebody ought to be put in jail. But it is a wiser policy to prevent than to punish.

Water Companies.

In European cities the water supply has been, in most cases, a municipal enterprise from the first. There have been some notable exceptions (London, for example), but private water companies have never managed to gain a firm foothold on the other side of the Atlantic. The earliest water plants in American cities, on the other hand, were privately owned; among the sixteen that had been established in 1800 only one belonged to the municipality. Gradually, however, public ownership began to make headway, and by 1875 more than half the water plants of the country were owned by the cities. Then came a reaction. The percentage of private plants again increased until in 1890 it stood at about sixty per cent of the whole. But the pendulum thereafter began to swing in the other direction and today an overwhelming majority of the water plants which supply the cities of the United States are in municipal hands.

Water Franchises.

Like any other public utility when privately operated, a water-supply system must secure a franchise in order to lay its mains in the streets. Water franchises were granted very freely by American cities during the greater part of the nineteenth century; they were often given for long terms, and carried valuable privileges.[1] Since the companies operating under these franchises were allowed to charge high rates for water supplied both to the city itself and to the citizens, they frequently made good profits and their franchises became valuable. Most of these private plants were well-managed, but their officials were naturally more interested in earning dividends than in providing new safeguards against possible pollution. Not only is the water service a natural monopoly but the demand for water is a demand for an absolute necessity. It is a service of too transcendant importance to be left in private hands and it is now

[1] For a discussion of this subject see Delos F. Wilcox, *Municipal Franchises* (2 vols., New York, 1910), Vol. II, pp. 397-450.

being almost everywhere brought under public control. There is little point in discussing what provisions a water franchise ought to contain, or what powers it should grant, and what restrictions it should impose, for the day of the water franchise is done.

The Necessity of Public Ownership.

Public ownership of the water-supply system is demanded by various considerations which do not apply to other public utilities such as lighting plants, street railways, and telephones. The water supply, in point of adequacy and purity, has a relation to the public health which the others have not. The city cannot leave the control of its illness-and-death-rates in the hands of any profit-seeking concern and should not be asked to do so. Again, the city itself is the largest individual customer of the water plant. The park department, the street-sprinkling service, the sewer-cleaning division, the fire department and many other branches of municipal administration are all large users of water; they sometimes take as much as one-fifth of the entire daily supply. Finally, there is a public interest that may be adversely affected by a private water company's rate-making policy. One method of charging for water may encourage the coming of new industries; another may drive them away. One schedule may discourage the owners of crowded tenements from putting in proper sanitary arrangements; another may make it more easy for them to do so. Water should be supplied to the people at cost, or nearly at cost, and a private company cannot be expected to operate the plant on this basis. For these various reasons water supply is a public utility that stands in a class by itself. The issue of public or private ownership cannot here be settled on economic grounds alone. Social considerations bulk large. One may therefore be a strong advocate of public ownership in this field, and yet be strongly opposed to the municipalization of gas plants or street railways.

A Few Predictions.

And what of the future? It is within the bounds of conservatism to say that within a generation or two the water-supply system will everywhere be owned publicly, that water will everywhere be filtered or otherwise rendered absolutely safe for domestic use, that the meter system will be universally adopted, that scientific progress will simplify the problems of water treatment, and that a large percentage of the present-day waste will be eliminated by improvements in household plumb-

ing. In spite of waste-elimination the per capita consumption of water seems likely to increase; but if it continues to increase as it has been doing there will assuredly be a lot of trouble in American cities.

## REFERENCES

An annotated list of books and other materials on this subject may be found in the author's *Bibliography of Municipal Government* (Cambridge, 1915), pp. 163-184. Among the important treatises that have appeared since this date are Joseph W. Ellms, *Water Purification* (New York, 1917); A. P. Folwell, *Water Supply Engineering* (3d edition, New York, 1917); F. H. Newell, *Water Resources* (New Haven, 1920), and M. F. Stein, *Water Purification Plants and Their Operation* (2d edition, New York, 1919). Mention should also be made of L. O. Bernhagen's booklet on *The Production of Wholesome Water for Municipalities,* issued by the Texas State Board of Health (1920), and of W. Garnett's *Little Book on Water Supply* (New York, 1922).

The *Journal of Proceedings* of the American Water Works Association (issued quarterly since 1914) contains many valuable papers.

# CHAPTER XXX

## PUBLIC SANITATION

Public Sanitation as an Essential Industry.

If the most imperative need of a modern city is its water supply, the next in point of urgency among its daily requirements is the removal of waste. A modern community could endure for a season without pavements, street lights, parks, telephones, or street cars; and it might conceivably struggle along for a time without schools, police, or fire protection; but without water and sewerage it would find the greatest discomfort and inconvenience within twenty-four hours. Public sanitation is therefore entitled to a place at the top of the list among the essential industries of every large community. It may be briefly defined as the art of removing all objectionable wastes in the most unobjectionable way. The layman thinks of sanitation as a branch of public health, and in a sense he is right; but much of what is done in the name of sanitation is not directly related to public health at all; it is largely a contribution to public convenience. No urgent considerations of public health are involved in the removal of ashes, snow, or waste paper, for example.

The Relation of Waste Removal to Public Convenience.

The modern city throws off an enormous amount of waste material from day to day. The total is sometimes as much as a ton daily per head of population. The wastes of New York City, everything included, amount to at least twenty billion tons per annum, all of which has to be removed and disposed of in ways which promote the public convenience, and safeguard the public health, without placing too heavy a burden upon the taxpayer. This waste consists of a great variety of things, all of which, however, may be grouped under five general headings, namely, ashes, rubbish, garbage, sewage, and snow. Ashes, of course, offer no direct menace to the public health. In all creation there is no more germ-free substance than fresh-made ashes. When ashes are taken away by the municipal authorities it is merely because this work can be better and more cheaply done

by common action than by leaving it to individual initiative. Rubbish and garbage, on the other hand, may become a health menace under certain conditions by increasing the number of rats, mosquitos, flies and other insect carriers, but their removal is also a matter of public convenience as well as of health protection. Sewage is the only form of public waste which directly menaces the health of the community, hence the efficient disposal of sewage may be said to be, first and last, a public health measure. Public sanitation is therefore a very comprehensive term, for it includes the removal of all industrial and domestic wastes, whether in the interest of health, convenience, orderliness, or all of them combined.

Snow Removal.

In northern cities, especially during winters when the precipitation is heavy, the removal of snow from the streets is a tedious and costly enterprise. Most of the city's attention is devoted to the business thoroughfares and the vicinity of fire hydrants. Apart from waiting for a change in temperature there is only one practical way of getting snow removed from the streets, which is by carting it away. A certain amount of it can be scraped or dumped into the sewer manholes; but if the quantity is too large for disposal in this way the only alternative is to haul it into the nearest waterway or to vacant land which has proper drainage facilities.[1]

The Disposal of Ashes.

Ashes are the most innocuous and the most uniform of all urban wastes; they present the simplest problem of collection and disposal. This is not only because of their relative cleanliness but because the total amount varies little in quantity for several months at a time. In northern cities this total is about one hundred and fifty pounds per year for every head of population, but it is gradually becoming smaller because of the more extensive use of oil fuel in industries and of gas for cooking in homes. If kept free from rubbish and garbage, the ashes make excellent filling for low and swampy lands, and in most cities they are disposed of in that way. Serious difficulties are involved, however, in persuading or compelling householders to keep their ashes separate from other forms of waste.

The Collection and Disposal of Rubbish.

Rubbish is the term applied to an assortment of waste which defies exact definition; it includes not only street sweepings

[1] The cost of removing snow in this way will usually run from twenty to forty cents per cubic yard.

but castaways of wood, paper, leather, tin, glass, rubber and what not—in southern cities they call it "trash." The problem of getting "trash" out of the way is one of no great technical difficulty, but it sometimes involves considerable expense. Most of the smaller cities collect ashes and rubbish together, carting both to the same "dump" or tract of low land. In larger cities the same plan is sometimes followed, but it becomes steadily more expensive. This is because the length of haul to suitable dumping places is increased as the close-in lands become filled. In such cases it is often found cheaper to incinerate the rubbish at some central spot. Occasionally, before incineration, it is picked over by city employees at reclamation stations, or by junkmen who pay an annual sum for the privilege. Everything that can be further utilized is taken out during this sorting process. Some years ago it was commonly believed that rubbish incinerators could be used to develop electric power, but experiments in this direction have not been generally successful. The fuel efficiency of rubbish is low (less than twenty per cent of that of steam coal), and a large amount of extra handling is required because the rubbish cannot be dumped from above but must be fed uniformly to the incinerator in order to keep up a steady fire. In some seacoast cities it has been the practice to load the rubbish on scows for dumping at a distance from land. This plan has been found objectionable, however, in that much of the lighter rubbish floats back and litters the beaches. It has been abandoned in Europe and is now being discarded in America.

Street Rubbish.

Another form of rubbish is made up of dead leaves, grass cuttings, and other natural litter including street sweepings and animal manure. A certain amount of it is washed into the sewers by heavy rainfalls or in the course of the spring thaws. To prevent its clogging the mains there are catch-basins which intercept it and which have to be cleaned out by hand at intervals. Refuse has some value as fertilizing material, and in smaller cities it can usually be marketed to neighboring farmers. In larger communities the longer haulage renders this method of disposal more difficult and the refuse (or a large part of it) is often taken to the city dumps along with ashes and other solid wastes. The steadily decreasing use of horses in cities has greatly diminished the amount of refuse collected

from the streets and has correspondingly simplified the problem of keeping them clean.[1]

The Collection and Disposal of Garbage.

Then there is the type of waste known as garbage. It is made up chiefly of what comes from the kitchens of hotels, restaurants and dwellings, together with offal from markets, decayed fruit and vegetables from shops, and other putrescible matter. In amount and composition it varies greatly in different cities, in different parts of the same city, and at different seasons of the year.[2] Many smaller cities make no provision for the collection and disposal of garbage; they leave it to be burned by the householders and thus to become a public nuisance, or to be collected by licensed scavengers who dispose of it by feeding to hogs. In some larger communities the garbage is gathered by city employees and sold to hog farms outside the municipal limits. From seventy-five to one hundred hogs will consume a ton of garbage per day.[3] This plan has the merit of affording a cheap solution of the disposal problem but it is offensive in thickly-settled areas and can hardly be called a sanitary method anywhere. It makes essential the separation of garbage from all other household waste, which is not an easy thing to secure because householders find it so much more convenient to dump garbage, rubbish, and ashes into the same receptacle. Some cities use the garbage, mixed with ashes or earth, for filling low land and natural ravines. When the garbage is spread in thin layers, treated with a deodorant, and well covered with soil, this plan is not objectionable. It has been found that land so filled is not usable, however, for several years.[4] Dumping or burying unmixed garbage in shallow trenches has nowhere been

[1] For a discussion of street cleaning organization and methods see A. P. Folwell, *Municipal Engineering Practice* (New York, 1916), pp. 297-314.

[2] An investigation in Chicago about ten years ago, showed the amount to be in some wards as high as 160 pounds per capita annually, while in others it was as small as 54 pounds. These figures are low; the average in most cities ten years ago ran above 200 pounds annually per capita. Analyses of garbage in different cities have shown a variation in animal and vegetable solids running from 15 to 30 per cent. In ordinary garbage the moisture amounts to seventy per cent or more of the whole. From 5 to 10 per cent of the solid matter is fat or grease.

[3] There is a good deal of recent data on waste disposal in Capes and Carpenter, *Municipal Housecleaning* (New York, 1918), pp. 169.

[4] In Chicago a large amount of garbage has been used in this way. The garbage is treated with a deodorant and then dumped on low land where it is spread to a layer one foot deep. Ashes to a depth of eighteen inches are next spread upon it, followed by another layer of garbage, and so on

found satisfactory as a method of disposal, for such dumps soon become nuisances. Some cities send their garbage out to sea, which is a harmless plan if the scows are towed far enough from shore. New York City uses this plan. Some other cities incinerate their garbage along with rubbish. Incineration is more extensively used in Europe, however, than in America. Some British cities utilize the heat from these garbage and rubbish incinerators to generate electric light and power, but it is difficult to determine from their accounts whether the results are financially worth while.

**Garbage Reduction Plants.**

The utilization of garbage by treating it in a reduction plant for the recovery of fats and grease has been found practicable in some of the larger cities; but the output of garbage in cities of 100,000 or less is too small to be profitably used in this way. When a sufficient supply is forthcoming the reduction process is sanitary, economical, and affords employment to a number of workmen. In some cities the reduction plants are operated by commercial companies, in others by the municipality itself. As for the process, it is not very complicated. The material is conveyed on scows to the plant where it is swung into large tanks or digesters holding from eight to ten tons each. The lids of the digesters are then screwed down and steam is injected at high pressure. In this way the garbage is "cooked" for about eight hours at the end of which time it has the consistency and appearance of apple butter. It is next run through a press which forces out the moisture and grease, leaving dry "tankage" to be sold as fertilizer. The moisture and grease are separated, sometimes by the use of gasoline, and the grease is then used for making soap or other marketable products.

**American Experience in Garbage Reduction.**

The amount of grease recovered per ton of garbage varies greatly.[1] Garbage from meat markets, for example, gives a very much higher yield than garbage from dwellings. It is worth mention that the fat-content of household garbage declined enormously during the war, due to the "meatless" days and to the education of the people in the art of food conservation. Since the close of the war, moreover, the effects of the lesson have

until the fill is completed. This plan has proved to be both economical and sanitary.

[1] In Columbus, Ohio, which may be taken as a typical city of medium size, the average is 54.87 pounds of grease and 162.1 pounds of "tankage" per ton.

been very much in evidence and the yield of fat per ton of garbage is today below what it was eight or ten years ago. Reduction plants are ill-smelling establishments unless great care is taken to exhaust all gasses emanating from the process. Boston sells its garbage to a reduction company which operates an establishment on Spectacle Island in the harbor. There are municipal reduction plants in Cleveland, Columbus, and other cities.

Newer Methods of Reduction.

Within the last few years another reduction process has been brought into use. It is commonly known as the dry-heat method. The raw garbage is placed in sealed, jacketed tanks into which a grease solvent is pumped. Steam is injected into the jackets; the solvent releases the grease, which is then run off and utilized. After the extraction of the grease the garbage is further dried and sold as tankage. Among the various advantages claimed for this process are the smaller cost of installing the plant, lower operating expense, and the entire absence of offensive odors.[1]

The Contract and Direct Methods of Garbage Collection.

But no matter how economical or how sanitary the disposal process may be it is a rare city that finds no difficulty in keeping its householders satisfied. Many of them object to the rule that different forms of waste shall be kept separate, and only by haling people into court from time to time can this regulation be enforced. Some cities require that garbage be drained and wrapped in paper before being placed in the can for collection. This wrapping makes the garbage easier to incinerate. Regularity of collection is the all-important consideration from the householder's point of view, yet regularity is difficult to maintain, particularly if the work is performed by contractors. The contract plan of collection is cheaper as a rule, but not so satisfactory as the work done by the city's own employees. The man who seeks and obtains a garbage-collection contract is not usually an idealist. He is not actuated by considerations of sentiment or æsthetics. His aim is to make an unpleasant job yield a good profit. To do this he employs the cheapest form of labor and cuts the corners wherever he can. The labor

[1] The best technical work on garbage disposal methods is Rudolph Hering and S. A. Greeley, *The Collection and Disposal of Municipal Refuse* (New York, 1921). The term "refuse," by the way, is now being used by sanitary engineers to include ashes, rubbish, and garbage.

unions protest because the men are underpaid and the citizens complain because the service is slovenly.[1]

So the contract method of garbage collection is now being replaced in many cities by a system of collection in which the city's own employees do the work. Sanitary experts are inclined to believe that the best results can be obtained when the city provides its own teams or trucks and operates them by its own labor on a flexible schedule under the supervision of inspectors.[2] In most cases the cost will be greater than under the contract system, but direct collection is believed to be worth the difference.

The number of collections per week depends on various factors—the density of the population, the section of the city (whether residential or business), the climate, and the season of the year. It should never be less frequent at any season than once a week, and it ought to be a daily service during summer months in congested or downtown sections. In the United States the collection is always done during the day hours; in Europe, on the contrary, the work of garbage and rubbish removal is usually performed at night. Some American cities, notably New York, gave the European plan a trial but quickly abandoned it.[3]

Sewage: Its Superlative Possibilities of Danger.

Rubbish and garbage are offensive but they look more offensive than they really are. The solid wastes are never superlatively dangerous, however much their presence may offend those supersensitive human organs, the eye and the nose. But there is another form of waste which, although it looks harmless enough as it passes out into a lake or river, is fraught with unmeasurable possibilities for the spread of disease. This is the city's sewage, the most troublesome of all its wastes and the largest in point of volume. People who have never seen the city's sewage as it flows from an outfall sewer or emerges from a sprinkling

[1] Irregularity in collection is difficult to avoid in all cases because the amount of garbage varies so greatly at different periods of the year. In American cities it is usually lowest in January and highest in September. An investigation in Chicago, some years ago, indicated that much more ground could be covered during a given number of hours in winter than in summer. The collection schedule should be altered accordingly, but this is rarely done.

[2] Teams are more economical where the hauls are short and the stops frequent; but for heavy, long hauls, under conditions where a truck can be kept moving, motor collection is considerably less expensive.

[3] The employees objected to night work and showed their resentment by banging the cans around with as much noise as possible, whereupon the sleeping populace rose in rebellion against the system of night collection.

filter, for example, have a wrong conception of what it looks like. It is in truth a far less offensive-looking liquid than one would imagine, and certainly no worse in appearance than the water which flows through such factory rivers as the Merrimac or the Monongahela. And these rivers, by the way, are no dirtier than the famed canals of Venice. Sewage is ninety-nine and nine-tenths per cent water; the amount of organic matter that it contains is usually not more than one part in a thousand. Nevertheless it is one of the most death-dealing substances known to man, with greater possibilities of destruction than a fleet of bombing planes or a deluge of poison gas.

**These Possibilities Were Not Appreciated Until Modern Times.**

The disease-carrying qualities of sewage, nevertheless, were only faintly appreciated until about a hundred years ago. There were drains and sewers in ancient cities, it is true, but they were for public convenience only, and not designed for health protection. They served the streets and public institutions rather than the homes of the people. They emptied their contents into the nearest lake or river, even though these same bodies of water were sources of public water supply. This practice continued not only throughout the Middle Ages but down to the early decades of the nineteenth century. Even yet, indeed, it has not been everywhere abandoned. One might suppose that so great a defiance of elementary sanitation would have scourged the populations of cities to extinction, but the beneficence of nature atoned for the ignorance of man. The process of self-purification by dilution helped to keep the cities from being wiped out, for it is well known that sewage will render itself innocuous if the amount is small and the watercourse large. It is not likely that the sewage which went into the Tiber, the Thames, the Seine, or the Tagus during these many centuries ever exceeded the ratio of one to fifty, which was a low enough ratio to keep nitrification under way.

**The Volume of Sewage in a City Today.**

The volume of sewage in the modern city, however, is very large and constantly increasing. It varies with the seasons of the year, of course, and in the larger American cities may range from fifty to several hundred gallons per capita daily. The average is slightly above a hundred and fifty gallons per head of population. Not all of this, of course, is domestic sewage, to wit, the effluvium from the sanitary appliances in dwellings and other places of human abode. A considerable proportion is

the trade waste, the liquid output from laundries, dyeworks, and industries of all sorts. Some industries do not empty their trade wastes into the public sewers but dispose of them directly into the river, lake, or ocean. After a rainfall, moreover, an enormous volume of waste water from the streets, the yards, and the roofs of buildings must be handled either in combination with the ordinary sewage or separately. Since this heavy precipitation sometimes comes upon a city within the space of a few hours the sewerage system must have the capacity to carry several times its normal load, for the wet-weather flow in the sewers may more than quadruple that of a dry-weather period.

Sewage Collection: the Separate and Combined Systems.

There are two systems of sewage collection, the separate and the combined. Some cities use one and some the other. In the separate system the surface water and the trade wastes are collected by one set of large mains, while the domestic sewage is carried away by an independent network of smaller pipes. In the combined system the same mains take care of all together. Both plans have their merits and both have their defects; the choice between the two depends upon a variety of local conditions such as the density of population, the amount of rainfall per annum, the concentration of this rainfall, the topography of the place, and the methods of ultimate sewage disposal used by the city. The last-named factor is probably the most important, for if the sewage is merely poured into a lake or ocean, the advantages of the separate system are far less than when every gallon of the sewage has to be put through a process of filtration or disinfection.[1]

Sewer Construction.

The earlier sewers and storm drains were built of wood or masonry; today they are of brick, concrete, vitrified tile, or cast iron. The trunk mains are large, sometimes six or eight feet in diameter. It is desirable that these trunk mains should be installed on a scale large enough to provide for future increases in population, and to this end every city should have a comprehensive plan of sewer construction. Not all American cities, however, have anything of the sort. Many of them deal with each section of the city, and sometimes with each street, as though it constituted an isolated problem without reference to other districts or other streets.

[1] There is a table showing the merits and defects of each plan in H. B. Wood, *Sanitation Practically Applied* (New York, 1919), p. 341.

Reasons for the Absence of Comprehensive Sewer Plans in American Cities.

The reason, briefly stated, is this: Before a plan of sewerage extension can be made it is necessary to have accurate topographical and sub-surface maps of the whole city, showing not only the nature of the soil and rock but the location of all water-pipes, gas mains, wire conduits, and other possible obstructions to the direct passage of sewers. Much of this information cannot be obtained, however, without a long series of borings, and this costs a lot of money. Rather than spend it the cities go blundering along without the maps. Having no maps they can make no accurate plans for the future; having no plans they do things piece-meal; and by doing things piecemeal they waste more money than the maps would have cost. It is only fair to add, however, that this situation is rapidly improving. The majority of the larger American cities now have sub-surface maps, and usually good maps. Most of them also have comprehensive sewer plans. The most prolific source of waste has been the laying of mains which in a few years prove to be inadequate. The probable volume of domestic sewage can be estimated without much trouble, and mistakes are not often made in this connection. But the volume of trade wastes and of storm water is not so easy to calculate for years in advance. The figuring here must be done with more care and intelligence than city officials have usually been able or willing to bestow upon it. The result is that trunk mains have sometimes been too large, thus involving extravagance, or more often they have been too small with the result that the sewage overflows from the manhole into the streets and basements, after a spring thaw or a heavy summer rainfall.

Catch-Basins and Manholes.

When surface water from the streets is taken care of by the combined sewers it is necessary to provide inlets or gratings at frequent intervals. Unless the grade of the sewer is sufficient to ensure it a self-cleaning velocity, catch-basins must also be installed to prevent the clogging which would be caused by bulky refuse flowing in with the surface water.[1] Manholes, or surface entrances, are also placed wherever clogging is likely to take

[1] The minimum velocity should not be less than two feet per second in separate systems, or two and one-half feet in combined systems. Owing to the extra expense which is sometimes involved in setting a gradient that will ensure this velocity, a lower standard is sometimes used, even as low as one foot per second, but in such cases the sewers must be flushed from hydrants or otherwise cleaned from time to time.

place for any reason, particularly where a sewer changes direction. In addition the junctions and curves should be so made that the flow will be continuous and regular, thus preventing the formation of eddies and deposits. Foul odors will rarely arise so long as the sewage is kept moving. A sewerage system consists not only of the disposal plant and the mains, but of inlets, catch-basins, manholes, automatic flush tanks, flushing gates, and various other appurtenances. These things greatly increase the cost of installation and maintenance.

**Protecting the Sewers Against Deleterious Wastes.**

There are certain harmful wastes which should not be allowed to pass into the sewers. These include the effluvium from glue factories and cement works, likewise all such acid wastes as are likely to damage concrete or cast iron mains. Large quantities of exhaust steam or hot water should not be discharged into the sewers, for they may dissolve the bituminous joints in iron mains or in extreme cases may crack the pipes. Gasoline and other volatile oils should also be excluded owing to the serious danger of an explosion after they become vaporized. There is no such thing, however, as "sewer gas"—as people commonly use that term. The air which ordinarily emanates from the mains is harmless. In Paris there are hundreds of men who work in the sewers eight hours a day, month after month, and suffer no impairment of their health. Fifty years ago there were sanitary "experts" who believed that a few whiffs of this imaginary substance were enough to place a man in the hospital, and indeed the sewer gas bogey was not finally laid to rest until a very few years ago. But like many other superstitions it brought some good in its train, for the dread of sewer gas led to improved plumbing and to the rigid inspection of all sanitary appliances. Meanwhile, a new popular delusion has arisen, namely, that the exudations from a sewer manhole are liable to explode. They do explode sometimes, but it is usually because some nearby garage has been running waste oil or gasoline into the mains.

**"Sewer Gas"**

**The Sewers of Paris.**

In the matter of providing efficient systems of sewage collection, the larger cities of Europe have been ahead of American municipalities. Of the many European sewerage systems that of Paris is the most elaborate and best known. Many Americans have derived their notions concerning the Paris sewers from Hugo's immortal story of Jean Valjean; but that was the Paris of more than a century ago. In the period of the Second Empire, and

particularly during the decade 1860-1870, a remarkable scheme of sewage collection was devised and carried to completion by the famous reconstructors of Paris,—Belgrand, Deschamps and Haussmann. The system consists of three great trunk sewers (*collecteurs*), one following each bank of the Seine and the third traversing the Montmartre district of the city. These trunk sewers are tunnels of arched masonry, built before the days of reinforced concrete. They are of horseshoe shape, from fifteen to twenty feet in diameter. The sewage flows in a five-foot gutter at the bottom, and above this gutter there is a projecting footpath about two feet wide. Smaller mains connect with the main tunnels at each street corner.

Use of the Paris Sewers by Public Utilities.

Near the top of the tunnels are galleries which carry the city's water mains, the conduits for the electric lighting, telegraph and telephone wires, the pneumatic postal tubes, and pipes containing compressed air for power. The plan of using the trunk sewers for these pipes and wires is a Haussmann invention which has not yet found adoption in other cities because it involves such heavy expense at the outset; but it has great advantages in the way of making pipes and wires accessible for repair without the necessity of tearing up the street surface. An annual mileage rental is charged for the use of the tunnels by the various pipe and wire utilities. The gas mains are not carried in the sewer galleries, because of the possible danger from explosion; they are laid under the sidewalks. Trips of inspection through the trunk sewers are made by the officials in an electric motor boat, and visitors to Paris who obtain permission to accompany the inspectors find the experience instructive without being in any way unpleasant.[1]

The Sanitary District of Chicago.

One of the largest sewage undertakings in the United States is that of the Chicago Sanitary District, which includes the city and some adjacent territory, an area of nearly four hundred square miles in all. More than twenty years ago the flow of the Chicago River, which formerly carried the city's sewage into Lake Michigan, was turned southward. It now passes through a great drainage canal for a distance of about thirty miles to Joliet, where it reaches the Des Plaines River and flows thence to the Illinois, by which it ultimately makes its way to the Mis-

[1] The permission should be sought by written application addressed to the Prefect of the Seine at the Hôtel de Ville.

sissippi and the sea. The cost of the entire undertaking, including the deepening of the rivers and the construction of locks, dams and power plants to supply electric current, amounted to about thirty-five million dollars. The work, moreover, provides the first link in what Chicagoans hope to make a great navigable waterway from Lake Michigan to the Mississippi. Some difficulties have arisen, however, in connection with the amount of water to be drawn from the lake, which is an international question and has been the subject of negotiations between the United States and Great Britain.

The Problem of Disposal.

Collecting a city's sewage is only half, and sometimes less than half the problem. Getting rid of it, after it has been collected, is sometimes a far more difficult undertaking. The specific problem is to find and follow a method of disposal which will be safe, convenient, and at the same time economical. Here, again, topography plays an essential part in determining the ease or difficulty of solution. In some cities, especially those located on high ground with the ocean at their doors, there is no problem of disposal at all, or almost none. But inland communities, built upon low ground, with a water supply drawn from small rivers or lakes, often find great difficulty in handling large daily volumes of sewage during summer and winter alike. In such cities the construction of an elaborate sewage-disposal plant is often the only practicable solution. Much nonsense has been written in "civics" text books about the "purification of sewage,"—the fact is that no city ever attempts a complete elimination of bacilli from its effluvia, nor could it achieve such a result except at prohibitive cost.[1] The place for purification is at the water supply plant, not at the outfall of the sewage mains. The most that the cities attempt to do with their sewage is to dispose of it, either with or without treatment, in such way that it will constitute no nuisance.

[1] Here is a nugget, for example, culled from a book entitled *Civics for New Americans*, published in Boston a half dozen years ago: "Recent discoveries have been made which may be of interest to you. If sewage is poured upon a sand filter until it lies a few inches deep over the sand, the water from the sewage filters through the sand and becomes purified. Then the water is available not only for fire purposes and other city needs, but also for all household uses." This "discovery" that a public water supply can be obtained by filtering sewage will assuredly interest Old Americans as well as New.

Ocean Disposal.

It happens (not by accident, of course) that most of the world's largest cities are located at tidewater, and by reason of this topographical advantage nearly all of these communities get rid of their sewage by turning it into the sea. This is done by running an outfall sewer a considerable distance (often several miles) from the land. Sometimes this sewage is held in storage for six hours while the tide is coming in, and released during the next six hours while the tide is going out. Turning untreated sewage oceanward is an economical and on the whole a safe method of disposal provided the outfall sewer is large enough and is carried to a point where the effluent will not be brought back by the perversity of tides or currents. Failure to carry the outfall far enough seaward has sometimes caused the pollution of shellfish beds and bathing beaches. More than one typhoid epidemic has been definitely traced to this form of contamination.

Discharging Sewage Into Lakes and Rivers.

Other large cities, not located directly on the ocean front, are on the shores of great lakes, or of rivers which carry large volumes of fresh water. The temptation to empty untreated sewage into such lakes and rivers is strong, because of the small expense involved in so doing; but an element of danger is often present in such cases. The amount of danger may be small or great, depending upon the volume of sewage and the size of the watercourse. Large bodies of fresh water can digest an enormous daily diet of sewage, and by the process of dilution render it reasonably harmless. This process requires, however, that there shall be a sufficient volume of diluting water, containing enough oxygen to ensure the nitrification of the sewage. Under favorable conditions water will always rid itself of pollution by converting the putrescible matter into nitrates or other mineral substances. The bacilli, in this process, are destroyed.

The Oxidizing Power of Water.

It is an elementary principle of chemistry that organic matter, in the absence of sufficient oxygen, will decompose or putrefy. If, however, it is placed in contact with sufficient oxygen, it will oxidize or nitrify. When there is enough water, accordingly, and therefore enough oxygen, the sewage will nitrify the organic matter which it contains. How great the volume of water must be, in proportion to the amount of pollution, is something that cannot be determined by any general rule, for such factors as the velocity, the hardness, and the temperature of the water, the strength of the sewage in pathogenic bacilli, and the

duration of the diluting process vary widely in different cases. The maximum sewage which will be nitrified under ordinary conditions "may be roughly stated as one part of sewage to fifty parts of water," but some sanitary engineers put the proportion of sewage a good deal lower.[1]

The Mississippi, the Great Lakes, and St. Lawrence as Carriers of Sewage.

It has been estimated that the Mississippi River receives nearly two billion gallons of sewage a day, including the entire output of Chicago and St. Louis. Yet at New Orleans the Father of Waters is no more contaminated than many smaller streams which receive the sewage of a single community. It has been demonstrated by elaborate tests, indeed, that the organic matter in the sewage of Chicago is entirely nitrified in the Des Plaines and Illinois rivers before it even reaches the Mississippi.[2] Duluth, Detroit, Cleveland, Toledo, Buffalo, Rochester and other cities have been emptying their sewage into the Great Lakes without any preliminary treatment other than screening to intercept the larger masses of floating matter, yet at Montreal the St. Lawrence River is as free from pollution as is any ordinary surface stream which flows through well-settled areas. The dilution in these instances is very great. But with small lakes or streams the process of dilution cannot be depended upon by large communities, and the sewage must be treated to reduce the solid content before it can be safely discharged.

The Various Forms of Sewage Treatment: (*a*) Screening.

These processes of sewage treatment are numerous; they include screening, straining and roughing, plain sedimentation, chemical precipitation, septic tank treatment, the actuated sludge process, and various forms of filtration.[3] Screening is the simplest of all sewage-treatment methods; the sewage is merely passed through coarse or fine screens to remove the larger particles floating in it. Fine screens, mechanically operated, will often remove as much

[1] Charles Baskerville, *Municipal Chemistry* (New York, 1911), p. 279.

[2] This was brought out in the famous case of Missouri *v.* Illinois, 180 *U.S.*, 208, and 202 *U.S.* 508. The technical testimony, which went deeply into the whole question of sewage dilution, is summarized in M. O. Leighton, *The Pollution of the Illinois and Mississippi Rivers by Chicago Sewage* (Washington, 1907). Originally printed as *Water Supply and Irrigation Paper No. 190* by the United States Geological Survey this report was also issued as *House Document No. 788*, Fifty-ninth Congress, second session.

[3] Those who desire to know something about the details of these processes will find full descriptions in Leonard Metcalf and H. P. Eddy, *Sewerage and Sewage Disposal* (New York, 1922); and Harold E. Babbitt, *Sewerage and Sewage Treatment* (New York, 1922).

as twenty-five per cent of the suspended matter.[1] The screened material is taken away daily and either buried or incinerated.

(*b*) Straining or Roughing.

Straining or roughing is the name commonly given to the process of passing the sewage through beds of coke, stone, or coarse sand, to which the organic matter adheres. So much sludge is deposited upon the surface of the beds, however, and this material is so difficult to remove that the roughing process has usually proved to be expensive out of proportion to the results obtained.

(*c*) Plain Sedimentation.

Plain sedimentation is used by many cities both in the United States and abroad, sometimes as a preliminary to filtration, and sometimes as a means of preparing sewage for disposal by dilution. The process consists in allowing raw sewage to flow slowly into or through ordinary storage tanks or reservoirs so that the solid matter may be deposited at the bottom. This may be done in either of two ways—by the "fill and draw" method or by permitting a continuous flow at low velocity. In either case the sludge, which accumulates at the bottom, must be removed at frequent intervals. Where there is a large volume of sewage it is customary to hasten the process of sedimentation by the use of chemicals such as milk of lime, sulphate of aluminum, or ferric oxide. The sewage of London, for example, is dosed with a chemical precipitant; the effluent is then run into the Thames while the sludge is ferried out to sea and dumped overboard.

The disposal of sludge in large quantities is almost always a difficult, disagreeable, and expensive problem. Sanitary engineers have therefore devised certain so-called "septic" methods whereby the solid matter in the sewage can be partially liquified by bacterial action and the amount of the sludge correspondingly diminished. This septic treatment involves the passing of raw

(*d*) Septic Tank Treatment.

sewage through specially constructed tanks in which the solids are slowly digested and decomposed, leaving a relatively small amount of black, alkaline, odorless sludge which can be discharged upon drying beds.[2] The liquid passes out of the tank for

[1] In some cities where much sand gets into the sewage from unpaved streets the sewage is passed through "grit chambers" slowly enough for the sand to settle but rapidly enough for the organic matter to be carried along.

[2] The best known and most widely used type of septic tank is the Emscher or Imhoff tank which contains two compartments, one above the other. The upper compartment is V-shaped with a slot at the bottom. The solids are first deposited in this compartment but are then allowed to run down into the lower compartment for decomposition. This decomposition is the work of anerobic bacteria which become intensely active when oxygen is

treatment by disinfection or filtration, or it may be directly discharged into a waterway if the diluting capacity is great enough.[1]

(e) The Activated Sludge Process.

A more recent development is the activated sludge process which consists in putting screened sewage into aeration tanks where it is mixed with "activated" sludge; in other words, with sludge which has been agitated with air until it has assumed a frothy or flocculant appearance.[2] The mixing is accomplished by forcing air into the bottom of the tanks for a stretch of three or four hours at a time. From the aeration tanks the mixture passes into sedimentation tanks where the sludge settles and the liquid is drained off,—clean, odorless, and free from solid matter. Part of the sludge is pumped back into the aeration tanks as activating material; the rest is sometimes dried and sold as fertilizer.[3] The results of this system are said to be highly satisfactory, but the expense varies with the cost of power for pumping air and the saleability of dried sludge for fertilizer.

(f) Intermittent Filtration.

The treatment of sewage by filtration is carried on in many cities of all sizes. There are at least a half dozen different methods of sewage disposal by filtration, the simplest being the plan of intermittent filtration which has some marked advantages when suitable land is available at low cost and climatic conditions are favorable. A tract of naturally sandy land is obtained, or, if this is not to be had, the beds may be built on any sort of level land and filled with sand to a depth of from two to four feet with underdrains beneath. Raw sewage is run upon the beds to a depth of a few inches above the surface, and then slowly drained from below, whereupon the beds are allowed to rest for a few days. Some difficulty with the use of this plan is encountered in cold climates where the sewage sometimes freezes before it can be drained.

(g) Contact Beds.

A much larger amount of sewage can be filtered on a given area

shut out and break down the solid organic matter. Prior to its introduction some cities installed single-compartment tanks provided with baffle-boards to retard the flow of the sewage. These tanks did not prove very satisfactory; the sludge was not well digested and the tanks gave off a great deal of odor.

[1] Disinfection of the effluent involves dosing with hypochlorite of lime or liquid chlorine.

[2] A full description of this process may be found in H. E. Babbitt, *Sewerage and Sewage Treatment* (New York, 1922), Ch. xvii.

[3] The largest activated sludge plant in the world is at Manchester, England; the largest American plant is in Milwaukee.

of land by the use of contact beds. These are water-tight basins filled with from four to seven feet of coarse material, such as slag, coke, cinders, or broken stone. The basins are filled to the top with raw sewage which is allowed to stand in the contact beds for a time. Then it is drained off from below and preferably run into a second contact basin in which the process is repeated. When single contact beds are used the results have not been very satisfactory; with double contact the plan works better but involves greater cost.

(*h*) Trickling, Percolating, or Sprinkling Filters.

Trickling, percolating, and sprinkling filters represent modern improvements on the contact bed system. The beds, which are made of the same material, are not filled to the brim at one stroke but the sewage is allowed to trickle upon the surface, or is sprinkled upon it in a fine spray. These sprinkling filters do not give very good results unless there is a preliminary sedimentation of the raw sewage and in any case the effluent retains a high bacterial content after it has been drawn from the filters. The principal advantage of the plan is the rapidity with which a large volume of sewage can be handled. The relative cost of these various filtration plans may be considerably modified by local conditions.[1]

(*i*) Broad Irrigation.

The method of sewage disposal by broad irrigation which is used by some of the larger European cities has found little favor in America.[2] It involves the discharge of raw sewage upon land which requires irrigation. While the plan has been regarded as

[1] A tabulation of costs based on pre-war conditions may be found in Babbitt's *Sewerage and Sewage Treatment* (1922).

[2] Berlin's system of sewage collection and disposal was devised by Hobrecht fifty years ago. The city is divided into twelve radial districts and the sewage of each district is conducted by gravity to a central point. At each of these central stations there is a pumping plant which forces it through large mains out to the farms beyond the city limits. These farms are composed of land purchased by the city from time to time during the last forty years—land that was not very fertile when acquired or very expensive to buy. At present the entire area of the farms is about 20,000 acres. When the sewage reaches the land it enters a reservoir or standpipe, from which it is conducted to small open ditches which run through the fields. The land is dosed at the average rate of about 4000 gallons per acre daily. In the colder period of the winter, when the sewage will not run easily, it is stored on the farms in reservoir fields.

About one-fourth of the whole area is tilled by the city; the rest is rented to tenant farmers. Much of the tract is in meadow, but the larger part is devoted to the growing of grain, fodder and vegetables. In the forty years during which the farms have been cultivated there has been no indica-

highly successful in Berlin, and moderately so in Paris, it has not been widely copied because a sufficient amount of irrigable land is hard to find in close proximity to most large cities. And there is the additional objection that in localities where the winters are severe or where the rainfall is heavy the irrigation method must provide for storage during such seasons. A general prejudice against the establishment of sewage farms in the neighborhood of settled communities has also been a deterrent to the use of this plan. Experiments are being tried with it, especially in California where there is plenty of arid land within easy reach of the smaller cities; but for the general run of American municipalities the plan of sewage disposal by broad irrigation does not appear to be worth serious consideration.

Which is the Best Plan?

To the ever-recurring question: "Which of these disposal systems is the best?" no dogmatic answer can be given. It cannot be said that any one of them is better or worse than the others under all circumstances. The topography of the city, the volume of sewage to be handled, the presence or absence of trade wastes, the availability of cheap and suitable land for a disposal plant, the cost of steam or electric power, the nature of the adjacent waterways, the climate, the amount of rainfall, the city's financial resources—these and a dozen other factors must be taken into account. It is sometimes desirable, indeed, to treat different portions of a city's sewage by different methods or to use a combination of two methods, or to vary some standard plan to meet local requirements. The decision is one which should never be left in the hands of laymen unguided by technical advice. Sewage disposal problems always call for expert study on the spot. This is all the more essential because the art of public sanitation is making rapid strides year by year. New processes of sewage disposal are being experimented with and some of them may at any moment demonstrate their superiority over methods now in vogue. It is not improbable, indeed, that much technical

tion of anything dangerous to the public health; indeed, to the passing observer there is nothing to distinguish these farms from the irrigated lands of the American West. It is often said that Berlin makes an annual profit from its sewage disposal system, and it is true that the balance sheet of this municipal department shows a margin of income over all fixed and running expenses. The real explanation of this profit-showing, however, lies in the fact that the account is credited with the large sum that comes in every year as the proceeds of a sewer rate or special tax which is laid on every house in Berlin.

progress will be made in this field of municipal administration during the next ten years.

**Organization of the Sanitary Department.**

There is a popular notion that the management of city sanitation ought to be linked up, in some way or other, with the health department; but there is fundamentally no reason why the board of health or the health commissioner should have anything more to do with sewage disposal than with water supply, or housing, or the suppression of the traffic in narcotic drugs. All of these things have a bearing upon the public health, it is true, but all of them are likewise replete with problems which differ widely in nature from those that ordinarily engage the attention of the health authorities. Public sanitation ought to have a department to itself, or, at any rate, a separate bureau in the public works department. The department or bureau should be headed by a sanitary engineer who has special training for the post; he should be appointed for a reasonably long term—say four years—and should be adequately paid. It is the poorest sort of economy to underpay the head of this service. This ought to be easy enough for mayors and city councils to realize but there are nevertheless many American cities, particularly among the smaller ones, which continue to display a high degree of penny-wisdom and dollar-foolishness in their expenditures for public sanitation. They are quite ready to create jobs for their political friends, as sanitary inspectors, plumbing inspectors, and inspectors of various other types whose business it is to nose around in places where very little real danger lurks; while untreated sewage is complacently permitted to befoul the neighboring waterways. From the standpoint of health protection a modern system of waste disposal is worth a whole battalion of these inspectorial functionaries.

**Sewer Finance.**

In American cities some of the earliest sewerage systems were built by private companies under franchises obtained from the public authorities. In almost all cases, however, the sewers are now owned and operated by the cities, the cost being paid from the public treasury. In some foreign cities, notably those of Germany, it is the custom to levy an annual sewer tax or rate based upon the annual rental of the property served. Most American sewerage systems have been built from the proceeds of bond-issues, the loans running for a term of twenty to forty years. In some cities a portion of the cost has been levied upon the

property benefited. The connections between house and street sewer are paid for, in practically all cases, by the owner. The cost of maintaining a system of sewerage is largely a matter of overhead charges or interest on investment. The sewers are virtually self-operating. Whether the cost of ultimate disposal will be large or small depends upon the process used. In the case of most American cities it is not large.

## REFERENCES

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Many helpful discussions of the problems of public sanitation may be found in the published studies which are made from time to time in the larger cities, in the annual reports of State Boards of Health, in the annual *Proceedings* or *Transactions* of the various engineering societies, and in the standard engineering periodicals such as the *Engineering News-Record.*

# CHAPTER XXXI

## POLICE ADMINISTRATION

The Police Function in Ancient Times.

Individual security was one of the strongest among the motives which drew men together into settled communities. Armed guardians of the law walked the streets of Memphis, Thebes, and Babylon. There were centurions and captains of the guard in the Holy City as the Scriptures attest. In ancient Athens, as has already been mentioned, a corps of Scythian bowmen was entrusted with the function of preventing crime and making arrests. Rome, in the days of Augustus, had a militarized police establishment numbering several thousand men. During the earlier Middle Ages all organized police administration disappeared and the protection of life and property in the towns, in so far as there was protection, depended upon the strength of the ducal overlord or the influence of the church authorities. It was only when the towns obtained emancipation from feudal and ecclesiastical control that the citizens were able to provide for their own security by the appointment of constables and other peace officers.

The Militarizing of Police in Continental Cities.

In the countries of Continental Europe from the beginning of the fifteenth century onward, the growth of royal power greatly impaired the control of the towns and cities over their own affairs. The national authorities intervened and took over the work of municipal administration, including in many cases the function of maintaining law and order. In the larger communities this duty was usually entrusted to military garrisons or to semi-military bodies under the control of royal officers. In France, for example, a lieutenant of police, appointed by the king, was stationed in every town of any considerable size. The powers entrusted to these royal officers, especially in times of serious disorder, were very broad and included the right to take preventive measures which greatly restrained the freedom of the citizens. The same development took place in other Continental countries. In Spain, for example, the centralization of police

control in the hands of the national government was virtually complete. In Prussia, after 1700, the monarchy took the function of policing the towns under its own jurisdiction. Policing became a national function.

Development of Civilian Police in England.

In England alone was the development of local police administration permitted to continue along decentralized lines. This was largely because England maintained no large standing army and no garrisons in the towns. With no soldiers available for police duty the English boroughs were left to provide for their own protection by the appointment of constables and watchmen. These officials were ordinary householders, called by rotation for duty, one day or one night at a time. For use in emergencies the largest communities, such as London and Bristol, had their "trained bands," half police, half militiamen. So long as the boroughs were small the plan of "watch and ward" proved adequate and it had the advantage of being cheap. In times of civil commotion, however, it was helpless and had to be supplemented by the use of troops. In 1655, for example, the whole of England was divided into twelve districts with a major-general in command of each, and these officers were given detachments of militiamen to aid them in their enforcement of the Cromwellian blue laws. With the Restoration of 1660, however, the military districts were swept away and the boroughs were once again left to the indifferent care of constables and watchmen. So great was the Anglo-Saxon prejudice against entrusting civil functions to military or semi-military authorities that no revival of Cromwell's plan, or anything akin to it, was again broached until well into the nineteenth century.

The London "Police" During the Period Preceding 1829.

It was in London that the system of watch and ward first broke down. Reputable citizens who had work to do during the day naturally disliked to spend one night per month patrolling the unlighted streets. Hence there developed the practice of hiring substitutes,—shiftless fellows who were ready to take any man's turn for a sixpence. In the reign of Charles II the common council of London appointed a body of bellmen (they were called "Charleys" in tribute to the monarch) whose duty it was to supplement the work of the watchmen. But, like the watchmen, they were neither trained, armed, nor supervised, and their inefficiency soon became the theme of popular witticism. To make matters worse London expanded far beyond the

ancient city limits, one parish after another being created in the surrounding area. Each had its own watchmen whose authority did not extend beyond the parish bounds, and this gave rowdies and malefactors an ample opportunity to escape whenever pursued. In 1800 there were a million people in the London district with little or no protection save that afforded by the heterogeneous array of day constables, night watchmen, and a small body of stipendiary police officers. Despite the severity of the punishments imposed whenever offenders were caught, serious crimes increased steadily in number. Robbers and crooks of all varieties plied their trades with impunity in spite of the fact that men were executed not only for murder and manslaughter but for forgery and common theft.[1] The streets of London were so unsafe after dark that members of Parliament took the precaution to have squads of soldiers escort them to their homes when the House adjourned.[2] Riots were of common occurrence both in London and in the rapidly-growing factory towns; and mobs sometimes held the mastery for days at a time until troops could be rushed to the scene.[3]

**Colquhoun and Bentham, the Reformers.**

Meanwhile, thoughtful men were turning their minds to the problem of providing a remedy. The first writer to present a constructive plan of reform was Dr. Patrick Colquhoun, a London police magistrate, who urged in 1796 that the constables and watchmen be replaced by a force of professional police under a centralized control and exercising jurisdiction not only in London but in the multitude of surrounding parishes.[4] Although no official action was taken along the lines of the Colquhoun plan for more than thirty years, its originator is

[1] All serious offences, about one-hundred and sixty of them, carried the death penalty. As many as forty persons were at times hanged in a single day. On one occasion seven persons, four men and three women, were hanged on the same gallows for having robbed a pedlar. W. L. M. Lee, *A History of Police in England* (London, 1901), p. 204.

[2] In this practice may be found the origin of the cry "Who goes home?" which to-day resounds through the corridors at Westminster whenever the House of Commons adjourns.

[3] For example, the Food Riots (1800), the Luddite affrays (1811-1816), the outbreaks in Manchester (1817), and the famous "Battle of Peterloo" (1819).

[4] Colquhoun's book, which was entitled *On the Police of the Metropolis* was widely read and quickly ran through several editions. It gave a vivid account of existing conditions, the sordidness of which was almost beyond description.

entitled to rank as a pioneer of modern police administration. Others took up the fight for police reform, notably the great utilitarian, Jeremy Bentham, who tried to instill into the minds of English statesmen the doctrine that *certainty of arrest* would accomplish a great deal more than *severity of punishment* as a check upon crime. Bentham pointed out the utter futility of hanging one hapless wretch for petty theft while hundreds of professional thieves plied their trade with impunity owing to the helplessness of the police. If the system of detection and arrest were toned up, he argued, there would be no need for such brutal severity in dealing with ordinary offenders.

Peel's Police Act (1829).

Various parliamentary committees investigated the matter and made voluminous reports but no radical improvement was secured until 1829 when Sir Robert Peel brought before parliament his famous Metropolitan Police Act.[1] This measure, which was speedily passed and put into force, provided for the creation of a great police district including the whole metropolitan area within fifteen miles of Charing Cross.[2] In this district the archaic system of watch and ward, with its constables and bellmen, was swept away, a body of full-time professional police officers being provided to take its place. The new force was placed under the direct control of the national government. Today the world has grown so habituated to professional police that it is difficult to understand how great cities ever managed to get along without them. Cities become nervous from time to time over the occurrence of "crime waves"; but no community of our own generation is so prolific in acts of lawlessness as were all large cities a century ago. The year 1829 inaugurated a new epoch in the maintenance of law and order.

Popular Opposition to This Measure.

But Peel's Act was not accepted by the people of London without protest. Englishmen have never been partial to administrative innovations and the "new police" represented so radical a change from the traditional way of doing things that a storm of opposition was aroused. The constables and watchmen, thrown out of their poorly-paid but sinecure jobs, set up a plaintive wail in which all their friends and relatives joined. On

[1] 10 Geo. IV. c. 44. A full discussion may be found in Capt. W. L. Melville Lee's *History of Police in England* (London, 1901), pp. 229-261.

[2] The old "City" of London was not included. Its police system was reorganized by a special act a few years later.

the other hand, the make-up of the new police force did not impress the people favorably. Its semi-military character made Londoners suspicious that a weapon of despotism was being created in their midst. Here was a regiment of blue-coats, armed and drilled, ready to put through a *coup d'état* whenever the higher authorities might give the word. The centralized control of the new police was regarded by many citizens as a direct affront to the principle of local self-government. At any rate a great deal of bitter antagonism was aroused, and for a time it looked as if the uproar would force the repeal of the act.[1] But the new police went to their work zealously and soon justified themselves by the extraordinary decrease in crime which took place during the years 1830-1835. In the last named year, accordingly, Parliament provided that other English boroughs might at their discretion establish bodies of professional police and in due course the new system gained general adoption, displacing the old system of watch and ward in all the English municipalities.

The Evolution of Police Administration in the United States.

In the United States the conditions which existed during the earlier portion of the nineteenth century were very similar to those in England.[2] There were constables and watchmen drawn from the ranks of the citizenship, but their efficiency was no greater in America than overseas. In the larger cities, such as New York and Philadelphia, it was found necessary to supplement their work by hiring regular marshals or wardens; but it was not until after New York was a city of 300,000 that the

[1] Newspapers, pamphleteers and stump speakers joined in the tirades against Peel and his "minions." Men and women paraded through the streets carrying placards with such mottos as "Rise, ye freemen of England, against Peel's bloody gang," "Down with the new police," "Londoners, protect your liberties," and so on. By way of sarcastic tribute to Peel the policemen were nicknamed "Peelers" and "Bobbies." Crowds of street urchins followed them about, hissing and hooting. When three policemen were stabbed in the Chartist riots in 1833, the coroner's jury returned a verdict of "justifiable homicide." The authorities were anxious to allay the popular suspicion that the new police were a body of soldiers. To this end they uniformed the force in blue coats, dark belts, and copper buttons. The British soldier in these days wore a scarlet tunic, a white belt, and buttons of shining brass. From the copper buttons the London policeman came to be nicknamed "the copper."

[2] A description of the system may be found in Raymond B. Fosdick's *American Police Systems* (New York, 1920), pp. 58-67.

first day patrol was established. These day patrolmen, who began their work in 1844, were appointed by the mayor on the recommendation of the ward aldermen. As a consequence they were invariably political henchmen; they received no training, and wore no uniforms; they were merely constables in citizens' clothes with no insignia but a gilt badge and no weapon save a wooden club. Mustered together they would have looked like Falstaff's regiment. In the prevention or detection of crime their work was practically valueless, for they never allowed themselves to encounter trouble when it could be avoided. The night watch continued as a separate institution under the control of the city council; but its efficiency was no greater than that of the day patrol.

Reform of the New York Police System (1857).

Disorder and lawlessness were so rife in the city during the fifties that the New York legislature ordered an investigation, the upshot of which was a decision to create a metropolitan police district after London's example. This was done in 1857. Day and night policing were consolidated by establishing a professional force for New York City and its environs under the direction of a state-appointed board. In all things, even to the uniforms, the London model was eventually followed.[1] The establishment of state control in New York was not accomplished without bitter protests from the citizens who regarded the action of the legislature as a repudiation of the principle of municipal self-government. "A device imported from England for enslaving American citizens," it was called. But despite these fulminations the new force assured its own permanence by the showing which it made in the suppression of crime. From New York the "new police system" gradually made its way into other American cities; within a short time it displaced the ward constables and watchmen in all the larger communities.

The Spread of State Police Control in American Cities (1857-1880).

To some extent, also, the other states followed the precedent set by New York in providing for state control of police departments in larger cities. Baltimore, St. Louis, Kansas City,

[1] Considerable difficulty was encountered in persuading the patrolmen to wear these uniforms, and some of them resigned when they found that the requirement was to be strictly enforced. The uniforms were stigmatized as "the King's livery," "an imitation of royalty," "un-American," "undemocratic." In Philadelphia it was found impossible to enforce the wearing of uniforms until late in 1860. The nickname "copper" was also borrowed from London; it has since been shortened to "cop."

Chicago, Detroit, Cleveland, Cincinnati, New Orleans, Boston and other cities all found their police taken over by the state authorities during the next twenty-five years. The ostensible reason for this action was the failure of the city officials to maintain proper standards of law and order, but in many cases there were political motives beneath the surface. The political leaders in the state legislatures desired a share of the police patronage. At any rate the spread of state control went on for a time; then it halted and a reaction came. Never popular at any time, the plan of state control could not continue to make progress in the face of a growing demand for municipal home rule. In nearly all the larger cities, therefore, the control of the police was handed back to the municipal authorities, the only important exceptions being Baltimore, St. Louis, Kansas City, and Boston, where state control continues to the present day.[1]

Merits and Defects of State Control Over Municipal Police.

Much has been written concerning the relative advantages of state and local control of police administration, but in the last analysis the choice between the two methods must depend on local conditions. In accordance with the rulings of the courts the police are state officers. They are chiefly concerned with the enforcement of state laws. The ultimate responsibility for the preservation of law and order rests with the state. Hence the legal and moral right of the state to assume direct control of the police, in any part of its own territory and at any time, cannot be questioned. On the other hand, the cost of police administration is borne by the city and to the ordinary citizen it seems axiomatic that those who furnish all the funds should have a voice in spending them; otherwise it looks to him like a plain case of taxation without representation. In Europe, when the central authorities control local police, or even claim the right of inspection, the national treasury bears part of the cost.[2] This

[1] In Baltimore the control is exercised by a board of three commissioners elected by the two chambers of the Maryland legislature in joint session. In St. Louis and Kansas City the police boards are appointed by the governor of Missouri, but in each case the mayor of the city is an ex-officio member. In Boston the police commissioner is appointed by the governor of Massachusetts.

[2] In England, outside the London metropolitan district, the police are everywhere under municipal control. But the national government has the right to inspect the police department of each borough. This is done by officers known as inspectors of constabulary who are attached to the Home

is an eminently fair arrangement because state-directed police departments usually prove to be more costly than those under local management for the reason that the central authorities almost always insist on higher standards of personnel and equipment. As a practical matter the question of state versus municipal police control depends upon the comparative quality of the central and local governments, making due allowance, of course, for the strength of the popular aversion to central control. The presumption is always in favor of letting each city assume responsibility for its own police protection; but good reasons for making exceptions to this policy are sometimes at hand.

Special Reasons for State Control.

There are some cities in which central control is entirely justified by the fact that the community serves as a national capital—London, Paris, and Washington are good examples.[1] There are also instances in which, by reason of a city's continued bad behavior or prolonged inability to maintain order, the state must inevitably step in. It is an ancient rule that from the wicked and slothful servant there shall be taken away even that which he hath. The justification of state control is also to be found, sometimes, in the desirability of letting well enough alone. When a city has become habituated to central control, and when that plan is working satisfactorily, there is little to be gained by abandoning it out of deference to some abstract principle.

Police Boards and Commissioners.

Whether the police department be under state or municipal control the present tendency in large communities is to place it under a single commissioner or superintendent. This is the universal practice in European countries. In the United States the board system of police administration was in general use thirty or forty years ago and it still continues in many cities at the present time although it is losing ground.[2] Police boards vary

Office. They report on the efficiency of the police establishment in each borough and when the report is favorable the borough receives a subvention from the national treasury. It amounts to about one-half of the local police expenditures.

[1] In the various countries of Continental Europe the police departments of the larger cities are in almost all cases under state control. This is true not only of the capitals—Paris, Berlin, Vienna, Rome, Madrid—but of the great commercial and industrial centers as well.

[2] Among more than 70 cities having populations exceeding 100,000 the board system now exists in sixteen only. The largest of these are St. Louis, Baltimore, Los Angeles, San Francisco, Milwaukee, New Orleans, Kansas City, Indianapolis, Providence, Louisville, and Atlanta.

widely as to methods of appointment, size and functions.[1] As a rule they are vested with complete responsibility for the organization and management of the police force, including the appointment, promotion, and dismissal of police officers. In some cities this right of appointment is restricted by the civil service laws. As a rule the police board appoints a chief or superintendent to whom the immediate direction of the department is entrusted, and whose duty it is to make recommendations in matters of appointments and discipline, but the extent to which this officer is given a free hand differs greatly from place to place. In some cities the board merely determines matters of general policy, leaving all else to the superintendent or chief; but more often, unhappily, the board acquires the habit of dictating even the details of administration.

Defects of the Board Plan.

The board system, as applied to the police department, has rarely given satisfaction. Police boards are notoriously deficient in unity of opinion and in promptness of decision. They confer and discuss; they avoid and evade; they are usually relieved when an excuse can be found for doing nothing. The almost inevitable lack of unanimity among the three or five members of a police board reflects itself in a dilatory attitude lower down. The chief waits for the instructions of the board; the patrolman await the orders of the chief. Meanwhile the occasion for action passes by. Members of police boards do not usually give their entire time to the work and rarely become well versed in it, yet they frequently assume to over-rule the chief on matters of police routine because political considerations seem so to dictate. Board control also opens the door to political intriguery. Members of the force bring political pressure to bear upon the board and thereby impair the disciplinary authority of their own superior officers.

[1] Almost every conceivable method of appointing the members of police boards has been given a trial in some American cities, including appointment by governors, legislatures, mayors, city councils, and courts. A few cities have experimented with the popular election of police boards. Police boards have been drawn from one political party, from both political parties, and from no political party. The boards range in size from three members in Baltimore to five in Milwaukee, six in New Haven and twelve in Atlanta. No branch of American municipal administration has seen a wider range of experimenting than this. Some cities have had as many as ten organic changes in their system of police administration within fifty years. In English cities, on the other hand, there has been no important change in the methods of police control since 1857, and in France there has been no change since 1871.

It is a demonstrable fact that American police boards, no matter how or by whom selected, have been made up for the most part of political appointees, chosen as a reward for partisan or personal service without regard to their individual competence. This being the case it is not surprising that the departments under their control should be honeycombed with politics and that invisible influences should dominate the work of the police department.

**The Need for a Unified Command.**

The work of a police department, if it is to be effectively performed, demands a thoroughly centralized leadership. It demands the entire thought and time of somebody who possesses the attributes of leadership. Its problems are not such as can be solved by men who have in all things an eye to politics. Both European and American experience has established the desirability of placing at the head of the police department a single commissioner or director. He should be appointed by the mayor, or by the city manager, without confirmation by any other authority, and should have no responsibility to anyone else.[1] Possibly the time may come when, with continued improvements in the mechanism of the merit system, the police commissioner can be chosen without any reference to political considerations; but in the larger cities of the United States public opinion is hardly ripe for this change.

**Qualities Needed at the Head of a Police Department.**

The qualities of an ideal police commissioner are easy enough to enumerate; but men who possess these qualities are few and far between. A police commissioner should have a sense of the great responsibility which the community lodges in his hands; he should be able to take responsibility without being afraid of it. Courage, tact, and alertness of mind are attributes which he cannot do without. He must be an organizer, a man of initiative, and a good observer of public sentiment. He must be broad in his social sympathies: the headship of the police department is no place for a bigot or fanatic of any type. He must be able to gain and keep the confidence of his subordinates while at the same time enforcing a high standard of discipline.

[1] Where there is state control the governor should have the appointing power. In cities which have the commission form of government a member of the commission serves as commissioner of public safety, having immediate jurisdiction over both the police and fire departments with the title of Commissioner of Public Safety. There is a good deal to be said for the combining of these two departments under one head in the smaller cities no matter what their type of government.

His moral fibre must be tough enough to resist the manifold temptations which will come his way, often politely disguised. On the other hand, he must not be stern and unbending, with the temperament of a bureaucrat. Where can the city find such a man? And having found him, how can he be induced to take a position in which the remuneration is so ill-proportioned to the responsibility?

Should the Head of the Department be Chosen from the Force or from Outside?

In smaller cities the head of the police department is often promoted from the ranks of the force, and this is the practice in a few large cities as well. But the tendency in nearly all large American communities is to choose the police commissioner (or whatever his title may be) from civilian life. This is done on the assumption that knowledge of police routine is one of the least among the qualifications demanded, and that long service in the force rather unfits a man for the exercise of the commanding generalship which goes with the commissioner's office. Police management is not merely a matter of assigning men to patrols and keeping discipline among them. In large cities it involves the planning of policies and methods, the handling of a brigade of armed men, and the spending of several million dollars annually. The qualities of mind and manner which enable a man to do these things are not usually developed by long service in subordinate ranks. Nowhere in Europe are

The European Practice.

the heads of the municipal police departments promoted from within the force itself; on the other hand, they are in all cases men of large administrative experience who have proved their ability to deal with complicated problems. It has been found that the task of dealing properly with matters of department technique or routine is least among the commissioner's difficulties. In such matters the commissioner can safely rely on the judgment of his uniformed subordinates. But a mastery of such things as the proper organization of the detective service, or the more effective prevention of crime, or the relation of the police to the courts, or the maintenance of honesty among members of the force, or the protection of the service against political demoralization cannot be acquired by patrolling the streets or sitting at a station-desk.

Most of the larger American cities also draw their police commissioners from civilian vocations, choosing men who have had no previous experience in police work but whose general qualifica-

tions are deemed to fit them for the post. In their quest they have drawn from almost every profession and occupation. They have tried army officers, lawyers, newspaper men, business men, and professional politicians.[1] Having no school of training for police commissioners, the appointing authorities have had to use whatever untrained material seemed to be available. Once in a while by skill or by accident, they have hit upon the right man, but far more often they have merely placed in office someone whose unsuitability for the post soon became apparent to everyone. Few heads of American police departments have managed to remain in office for more than three or four years.[2] The vicissitudes of politics have had much to do with this, of course, since it is usually assumed that a change in the mayor's office makes desirable a new man at the head of the police department. More mayoralty campaigns, indeed, have been fought upon issues of police and policing than upon any other single phase of municipal administration. Among the larger cities of the United States there are not a half dozen in which the police department is organized and administered on a strictly non-political basis. This alliance of police and politics is a standing menace to the integrity of both. To divorce these two incompatibles would be to eliminate one of the sinister features in American municipal life.

The American Practice.

In the great cities of today the police force is to all intents a regular army—enlisted, sworn, drilled, disciplined, armed, and obeying a superior's word of command. It is organized into platoons, companies, and battalions; its officers have quasi-military rank; it is equipped for action not only with automatic pistols but with machine guns, riot guns, and in some cases with hand-grenades and armored cars. The metropolitan police force of London now numbers nearly 20,000 officers and men of all ranks,

The Size of Municipal Police Departments.

[1] Detroit, since 1900, has had ten police commissioners. The list included a physician, a lawyer, a manufacturer, a furniture dealer, an automobile sales agent, and two bankers. In other cities one may find examples of hotel keepers, real estate men, insurance adjusters, jewellers, barbers, roofers, laundrymen, undertakers, and even clergymen selected for this position.

[2] No police commissioner in New York City has served more than six years; the average term has been less than two years. Chicago in 50 years has had 25 police superintendents. Philadelphia has had fourteen directors of public safety in 35 years. Cleveland in 15 years has had seven directors of public safety. London, on the other hand, has had only seven commissioners in almost a century. In European cities the terms average four or five times as long as in this country.

which is nearly as large as the British army at Waterloo. Washington won some of the battles of the Revolutionary War with fewer armed men than the 10,000 who are today included in the police force of New York City. The police force of Paris numbers 8000 men; Chicago is not far behind with over 6000. In proportion to their population it may be noted that European cities have larger forces than are to be found in America, which is partly because European police are given a wider range of functions to perform. They are used to some extent as sanitary and building inspectors, or as censors in cities where a system of censorship exists. Many police officers in Continental cities are also assigned to clerical duties. On the other hand, the duties of European police officers are less difficult than those of the police in American cities because of the heterogeneous character of the populations with which the latter have to deal. Balancing up an allowance for these features on both sides it would seem that either European cities have too many policemen or American cities too few. It is probable that most American communities are under-policed, especially in view of the heavy demands now made upon traffic officers.[1]

Police Headquarters.

The methods of organizing and distributing a police force are essentially alike the world over. Immediately under the commissioner, or police board, or other ultimate authority, there is an assistant commissioner, or chief constable, or chief of police, or superintendent, who is entrusted with the management of routine and details.[2] In Europe this officer, by whatever title known, is often selected from outside the police department; but in America he is almost invariably appointed from the personnel of the force. And in America, unhappily, the selection is also dictated in too many instances by political motives, save in those cities where the position has been brought within the scope of the civil service laws. The chief of police or superintendent is in command of police headquarters; in large cities he is usually

[1] Sir Basil Thomson, for several years the head of the criminal investigation branch of the Metropolitan Police of London (Scotland Yard), expressed the conviction, during his visit to America in 1923, that the police departments of the larger American cities were considerably undermanned.

[2] In smaller American cities, where there is no commissioner or board the chief is directly responsible to the mayor. The position of chief was abolished in New York City more than twenty years ago; the customary duties of the office have usually been performed by the chief inspector.

assisted by a deputy chief. Certain subordinate officers, including inspectors, sergeants, patrolmen, and special investigators, are also detailed for service at these headquarters. In some cities a special reserve or patrolmen, for use in emergencies, is kept at headquarters as well. The remainder of the force is distributed among the various stations, one of which is located in each district or precinct. This articulation of headquarters and stations exists in both European and American cities.

The Precincts and Stations.

A precinct station is in charge of a police captain.[1] This officer is responsible for the management of his station and for the maintenance of efficient policing in his district or precinct. He assigns the men to their respective patrols or special duties and is the main channel of communication between his district and headquarters. In some of the larger European and American cities, several police districts or precincts are grouped into divisions with a higher official in charge of each. In Paris, for example, every four precincts (*quartiers*) are combined into a district under an *officier de la paix*. The ninety-three precincts of New York City are grouped into seventeen districts with an inspector at the head of each. Chicago, Pittsburgh, St. Louis and Cleveland furnish similar examples. In any case the captain assumes charge of his precinct by day, while a lieutenant or sergeant goes on duty during the night hours.[2] Attached to each station are sergeants and patrolmen; the former are assigned to desk duty or to inspectorial work on the streets of the precinct.

The Patrolmen.

Every precinct is divided by its captain into patrols, the length of each patrol being determined by the character of the neighborhood. In downtown and thickly-populated sections they are shorter than in outlying districts. For the latter it is now becoming customary to equip patrolmen with motorcycles or automobiles in order that longer routes may be covered. The duty of the patrolman is to cover his patrol within the time designated, to prevent crimes and misdemeanors, to keep an eye on suspicious persons and places, to make arrests when necessary, to furnish information when requested by strangers, to report accidents, and to follow any special instructions that may be communicated to him from his station. The patrolman's work is of a varied and

[1] In England he is called *inspector;* in France, *sous-brigadier;* in Germany, *Hauptmann.*

[2] In some cities the captain is theoretically in charge at all times.

exacting nature, demanding personal courage, intelligence, honesty, resourcefulness and patience. The officer's word is law on many trivial matters; his common sense determines whether large masses of the people in crowded districts obtain a right or wrong impression of law enforcement. The policeman is a judge in a very real sense. It is within his discretion to decide, in many cases, whether he should overlook a minor offense or take action. He is a court of first instance—the only court with which thousands of citizens ever come into contact.[1]

**How Patrolmen Are Chosen.**

In Europe great care has been bestowed upon the work of recruiting municipal police officers; in the cities of the Continent the practice has been, and still is, to appoint no one who has not served for a certain length of time with credit in the military forces.[2] Nowhere, either in England or on the Continent, are political considerations given any weight in determining the selection. In the United States, on the other hand, it is only within relatively recent years that patrolmen have been chosen on a basis of merit in most of the larger cities, and even yet political patronage is the controlling factor in some of them.[3] Another difference between European and American practice may be found in the almost invariable rule that no one may be appointed to the police department in an American city unless he be a resident of the municipality—sometimes a term of several years is required. European cities, on the other hand, give preference to non-resident applicants on the theory that such men will be less subject to any local influences.

**Promotions in the Force.**

Promotion in some of the larger American cities are now made by competitive examinations held under civil service rules; in others they depend upon the recommendation of the captain or the chief. Endeavors have been made to devise a system of

[1] Many of the larger cities have adopted the practice of appointing a small number of women police officers. They do not perform patrol duty of the ordinary sort but are usually assigned to special lines of work for which they are assumed to be better qualified than male officers.

[2] A study of the occupations from which new patrolmen in a certain large American city were drawn shows that the majority were laborers, truck drivers, chauffeurs, clerks, plumbers, gas fitters, and railway employees.

[3] It is estimated that about 70 per cent of the police in American cities of over 30,000 population are now (1923) selected by some form of civil service competition. In smaller communities the percentage is not so high. For a description of the tests see E. D. Graper, *American Police Administration* (New York, 1921), pp. 62-73.

promotion based upon efficiency records which indicate by a score card of merits and demerits each officer's rating in the performance of his duties.[1] But it is very difficult to devise any hard-and-fast arrangement, either by way of examinations or efficiency ratings, which will not work injustice in individual cases. It can fairly be said, however, that they work far less injustice than schemes of promotion based upon the caprice of an officer's superiors.

Training Schools for Police Officers.

For many years European cities have maintained training schools for patrolmen but it is only within the last decade that even the largest American cities have followed their example. It was taken for granted that a uniform, a revolver, a night stick, and a pocket manual were enough to transform any able-bodied citizen into an efficient guardian of the law. Schools of training are now operated in practically all the largest cities of the United States, with a training period which varies from three to six weeks. The course includes instruction in elementary law, the rules of evidence, legal procedure and police duties, methods of identification, local geography, first aid, the making of reports, and pistol practice.[2] As yet the American schools are elementary as compared to those of European cities, but there is every reason to expect that they will raise their standards as time goes on.

The Maintenance of Police Discipline.

The maintenance of police discipline is a problem of some difficulty everywhere and more particularly when the department has become honeycombed with politics. In some cities the chief of police may suspend or dismiss any member of the force for cause stated in writing. In others no severe penalties may be imposed except after a trial before some duly constituted board. In a few cities, among which Chicago affords the most notable example, removals cannot be made without the concurrence of the civil service commission. Very often, however, the action of the chief, or of the trial board, is not final; an appeal may be carried to the courts. Such appeals against dismissal are frequently taken and reinstatements by judicial decree are common, although not so common as they used to be.[3] It will be generally agreed, of

[1] Such a system was established in New York during the administration of Col. Arthur Woods, but was abolished by his successor.

[2] One of these schools, that of Berkeley, California, has a much more elaborate curriculum. The patrolmen attend the school one hour each day for three years.

[3] In New York City, during the years 1914-1917 for example, 126 members of the force were dismissed after trial, but in only 3 cases was reinstatement ordered by the courts.

course, that all public officers should be protected against arbitrary dismissal for personal or political reasons; on the other hand, it is obvious that frequent reinstatements have a demoralizing effect upon the discipline of the force. Several years ago Mayor Mitchel of New York City strongly advocated the giving of absolute and final disciplinary powers to the police commissioner as the only method of maintaining the morale of the force; but he discovered that public opinion was not prepared to go so far.

The Hours of Police Duty.

Much attention has been devoted in the United States to the matter of regulating the hours of police duty in such way that the men will have a reasonable amount of time at their homes. Police work must be carried on both day and night; in some precincts more men are needed for patrol duties by night, while in others (especially in the downtown areas) the peak of the load upon the police comes in the day hours when street traffic is heaviest. At all times, moreover, it is necessary to have some men in reserve at the stations. On the other hand, no patrolman can do good work if required to spend more than eight consecutive hours on active duty. These practical requirements of police routine have dictated the division of the force at each station into shifts or platoons, usually three of them. One platoon goes on active duty while the second is off, the third remaining at the station in reserve. The three platoons, of course, are not of uniform size, the reserve shift being the smallest at any given time. Cities have tried various other arrangements from time to time but not with any great success.

The Platoon System.

The Problems of Traffic Regulation.

In recent years the growth of traffic congestion has placed a new and heavy burden upon the police establishment. Twenty years ago there were no traffic officers in any except the largest cities and very few of them even there. Today the officers assigned to traffic duty during the day hours constitute in some cities one-fourth of the entire force. In addition many traffic officers are now assigned to night duty near theaters and other places of amusement. It is customary in the larger communities to have a traffic division within the police department, and the officers who serve in this division are either connected with police headquarters or are distributed to the several stations. In New York City there are special traffic subdivisions independent of the regular police districts. Patrolmen are de-

tailed to the traffic division from the regular force, but in the larger cities they are given some special training in traffic duties before being assigned.[1]

Traffic Regulation as a Science.

Traffic regulation is rapidly becoming a science.[2] In the United States the "single block system" is the plan most commonly used; it involves the alternate stopping and starting of vehicles at all congested street crossings. Traffic is allowed to move along each street in turn. This is at best a wasteful plan in that it reduces the traffic-value of the streets by fifty per cent. But it has been retained because no other method seems to produce better results in narrow, crooked, or badly crowded thoroughfares. A few of the largest cities, notably New York, have been experimenting with the "multiple block system" which permits vehicles to be stopped and started at several crossings simultaneously, the control being exercised from traffic towers equipped with electric signalling devices. The claim is made that this method greatly expedites the safe passage of traffic. The problem of alleviating traffic congestion has been rendered somewhat less difficult by the designation of certain narrower thoroughfares as "one way streets," and by reserving certain streets for commercial vehicles while others are restricted to passenger cars. The indiscriminate parking of vehicles on streets has been a prolific cause of congestion, but elaborate restrictions have now been placed upon this practice in the downtown areas of all large cities. The enforcement of these parking rules has also increased the work of police officers and police courts. In no other field is the police officer so obviously a court of first instance and in none is there so much political or personal influence exerted to let offenders go without hailing them into the regular courts.

The Detection Work of the Police Department.

The service of detection and investigation, although within the jurisdiction of the police department, is one which the ordinary patrolman is not well fitted to perform. Most of the graver crimes are committed by professionals whose skill in evading detection must be matched not only with an equal measure of police

[1] In New York City the course occupies two weeks in the police training school. It deals with traffic rules, methods of signalling, and so forth.

[2] The best discussion of this subject is W. P. Enos, *Science of Highway Traffic Regulation* (New York, 1920). Mention should also be made of the paper on "Legal Aspects of Traffic Control" by C. B. Prichard, in *Proceedings of the National Conference on City Planning* (1921), pp. 137-146.

sagacity but with an elaborate organization.[1] In the cities of Europe the work of criminal investigation is regarded as a special police function and is entrusted to a corps of trained specialists working under the direct supervision of police headquarters. These men specialize in the investigation of certain classes of crimes; one officer devotes all his time to following pickpockets, for example, another to the capture of gunmen, and so on. By reason of long experience these specialists, in London, Paris, and other European cities, have placed their work on a high plane of professional expertness. In the United States it has been the general custom to detail from the various stations for detectives work those patrolmen who are deemed to have some fitness for the work even though without any special training. This practice still persists in many cities, but the selection is now made in some cases by civil service tests.[2] The endeavor is now being made in most of the larger cities, moreover, to give the members of the detective force some definite training and to develop specialists in certain lines of criminal investigation.[3] In some American cities the detective corps works from headquarters; in others it is distributed among the stations; in others, again, a combination of the two plans is used. At best the work has been marked by the use of hit-or-miss methods, by a lack of adequate supervision, by a failure to keep records accurately, and by slow progress in the science of identifying habitual offenders.[4]

[1] The average citizen seems to think that the detection of a criminal is largely a matter of the individual detective's shrewdness and sagacity. This idea, of course, has been widely propagated by *The Adventures of Sherlock Holmes*. The truth is, however, that good detective work, in the great majority of cases, represents the combined results of organization, specialization, and patient industry. For some authoritative testimony on this point, see Sir Basil Thomson, *My Experiences at Scotland Yard* (New York, 1923).

[2] It might be thought that the detectives would represent a higher grade of intelligence and alertness than the ordinary patrolmen, but in Cleveland it was recently found that they scored lower on the Army Intelligence Test. *Criminal Justice in Cleveland* (Cleveland, 1922), pp. 66-67.

[3] In New York City, for example, there are now special squads of detectives for pickpockets, loft-burglars, auto-thieves, gangsters, narcotic pedlars, truck and wagon thieves, and homicide cases.

[4] In many cities, for example, the "rogue's gallery" of photographs is still the chief reliance; others use it in connection with the Bertillon system of measurements. Within recent years most of the larger American cities have introduced the finger-print method of identification. For a full discussion of these modern methods of criminal identification, see Raymond B. Fosdick, *European Police Systems* (New York, 1915), pp. 315-368, and the references given in the Appendix (pp. 416-418).

The Cost of Policing.

The cost of police protection in American cities is about three dollars per annum, on the average, for every head of population. In New York City it is over four dollars per capita, or nearly twenty-five million dollars a year. The policing of Chicago costs more than eleven million dollars per year and that of Philadelphia about seven millions. This is a marked advance over the figures of ten years ago. It is a significant fact that the average American city spends more money for policing than for health protection, poor relief, public libraries, and public recreation put together.

The Right of the Police to Organize.

Until about a dozen years ago the police of American cities contented themselves, for the most part, with local organizations. They formed themselves into associations, ostensibly for benevolent purposes such as the paying of sick benefits, funeral allowances, and so on. In due course, however, these associations in some cities became affiliated with the American Federation of Labor and in 1919 the propriety of any such affiliation was brought into serious question by the police "strikes" which took place on both sides of the Atlantic, notably in Liverpool and in Boston. The upshot of these episodes has been the spread of a general opinion that municipal police officers, while they may be permitted and even encouraged to form local associations, and perhaps to even federate these local bodies into a national organization, ought not to become affiliated with organized labor as such, and must not be permitted to strike "against the public safety." The police force owes allegiance to the public; its members are sworn and enlisted for duty as soldiers are. A "strike" on the part of soldiers is a mutiny and is dealt with accordingly. The police, like other public employees, should be given a suitable channel of organized effort for the redress of their grievances and for securing proper conditions of work. In England, as an aftermath of the Liverpool strike, the municipal police were forbidden to join any trade union or other association having for its object the bringing of pressure in matters of pay, pensions, or conditions of service. Provision was made by general statute, however, that the police should organize locally and that their local associations should be formed into a national federation with the right to be heard by the public authorities through a central committee.

The Right to Strike.

The efficiency of a police department may deteriorate consider-

Police Efficiency and the Increasing Crime Ratio.

ably without the public knowing it. There is no objective test of police efficiency. When things go wrong in the street department or water department, for example, the evidence of inefficiency is visible to the naked eye; but even with the most careful records it is difficult to determine whether police standards are what they ought to be. The public is prone to judge the effectiveness of police work by the number of crimes committed; but the statistics of crime bear a much closer relation to industrial conditions than to police efficiency. The increasing crime ratio in cities is due in the main to causes which the police cannot control and for which they have no responsibility.[1]

The Increased Mobility of the Criminal.

One of these causes is the increased mobility of the criminal due to his use of the auto. Gunmen, yeggmen, burglars, and even common thieves nowadays use the automobile as a part of their regular equipment. It is obvious, of course, that a policeman on foot cannot be very efficient in preventing crimes by desperados who come and go at fifty miles an hour. The automobile gives the criminal a wide range of action; he can flit from one city to another without using the regular public conveyances or going near the terminals which are under police surveillance. To meet this new situation two things seem essential. First, each city will have to provide its police department with a sufficient number of motor cars, and, second, there must be a body of constabulary or troopers with state-wide range as in Pennsylvania, New York, and Massachusetts. So long as the criminal possesses the advantage of greater mobility, and of a greater radius of action, he will use his opportunities to the full.

Policemen and the Public.

A police force, as Colonel Woods has pointed out, is "very sensitive and responsive to public opinion." [2] If its members get the idea that no matter what happens they will incur public criticism, they will put little heart into the performance of their duties. On the other hand, it has often been demonstrated that public support and encouragement have a marked effect upon public morale. Public opinion can both create and destroy. The policeman's job is necessarily of such a character as to give him a rather poor opinion of his fellowmen. He is daily in contact with the seamy side of life, with malefactors and the underworld. It is the sordid elements of the community that he is appointed to

[1] See *below*, p. 225.

[2] Arthur Woods, *Policeman and Public* (New Haven, 1919), p. 176.

control. He needs, therefore, a frequent reminder that the great majority of the people are of a different type from those with whom he has immediately to deal, and this can best be provided by a generous public recognition when good work is done.

The Public's Duty to the Police Department.

When corruption creeps into a municipal government the police department is usually the first to feel its effects. It is easy to make the work of this department yield blackmail and bribery. Few people in a community stand to gain large profits from dishonesty in the water or fire departments, but by the perversion of police duty large sums can be put into the pockets of gamblers, bootleggers, drug pedlars and vice promoters. Every large city shelters a horde of men and women who do not scruple to set temptation in the policeman's path. If there has been, on the whole, more corruption in police departments than in any other branch of American city administration, it is not because police officers are a peculiarly venal body of men; it is because nothing short of iron-clad integrity will keep a policeman straight. The duty of the public towards the police force is to provide it with honest and capable leadership, to give the officers adequate pay and proper conditions of employment, to be quick and generous in the appreciation of duty well-performed, and to improve the environment in which the policeman does his work.

## REFERENCES

Several good books are available for the study of present-day municipal police administration, notably E. G. Perrier, *La police municipale* (Paris, 1919); Raymond B. Fosdick's *European Police Systems* (New York, 1915), which contains an excellent bibliography (pp. 409-420), and the same author's *American Police Systems* (New York, 1920). L. F. Fuld's *Police Administration* (2d edition, New York, 1910), is a critical study of police practice in the cities of both continents. Other volumes on various aspects of police work are William McAdoo, *Guarding a Great City* (New York, 1906); Col. Arthur Woods, *Policeman and Public* (New York, 1919), and his *Crime Prevention* (Princeton, 1918); E. D. Graper, *American Police Administration* (New York, 1921); J. J. Skehan and J. P. Conway, *Practical Police Work* (New York, 1919); G. F. Lumb, *Police Training* (Harrisburg, 1919); G. F. Chandler and others, *The Policeman's Art* (New York, 1922) and C. F. Cahalane, *The Policeman* (1923). Mention should also be made of Raymond B. Fosdick's discussion of Police Administration which forms Part III of the Cleveland Foundation's report on *Criminal Justice in Cleveland* (1922). In the various surveys mentioned on p. 26, moreover, one may find discussions of police organization and efficiency (Indianapolis, pp. 171-259; Richmond, pp. 215-352; San Francisco, pp. 159-272, etc.).

# CHAPTER XXXII

## MUNICIPAL POLICE COURTS

Municipal Courts in Continental Europe.

In the countries of Continental Europe there are no municipal courts. The judicial system is everywhere organized on a national basis; the judges are appointed by the national government and the entire procedure of the courts is under national control. The courts which function in these European cities are merely the lower branches of the national judiciary; they do not differ from the courts which have jurisdiction in the rural areas. This is partly due to the tradition of centralization which exists on the Continent, but it is also accounted for, in part, by the fact that the entire judicial system in France, Prussia and Italy was rebuilt from the ground during the Napoleonic era. The old diversity of laws, courts and jurisdictions was swept away at that time; a new, symmetrical system was set up. During the past hundred years the system of judicial administration in these countries has stood integrated from top to bottom.[1]

Municipal Courts in England: 1. The Courts of Petty Sessions.

In England there is an approach to the same uniformity but with a slight difference between the administration of justice in rural and urban communities. In the rural areas and in the smaller boroughs the local courts, known as Courts of Petty Sessions, are presided over by justices of the peace. These justices are laymen (women are now eligible); they receive no regular salaries, and are required to have no special knowledge of the

[1] France is divided into nearly three thousand *cantons*, or local judicial districts. A canton may contain several small communes, or one large commune may be divided into two or more cantons. In each canton there is an appointive *juge de la paix* with jurisdiction in all petty cases, whether civil or criminal. From the decisions of this local judge an appeal may be taken to the *tribunal d'arrondissement* or district court which is presided over by three or more appointive judges and which also has original jurisdiction in more important civil or criminal cases. Above the district courts are Courts of Appeal and Courts of Assize, with a national Court of Cassation as the ordinary tribunal of last resort. All civil and criminal cases go through these various courts and the procedure is uniform throughout the country.

law or of judicial procedure. They are appointed for life by the Lord Chancellor, and their post is one of considerable honor.[1] On its face this method of local court-holding by unpaid laymen might seem certain to result in judicial chaos and a deluge of appeals; but in practice it works fairly well. If the justice does not know the law, he usually knows the suitors. He is assisted, moreover, by a clerk who is a lawyer and whose function is to keep the court informed on all matters of procedure and practice. Hence the saying that offenders are tried in England by "a justice who is a gentleman and a clerk who knows the law."

2. The Courts of Summary Jurisdiction.

In London, in all the large boroughs, and in some of the urban districts there are local courts, known as Courts of Summary Jurisdiction, and presided over by stipendiary magistrates. These magistrates, as their title implies, are paid officials drawing stipends or salaries from the borough treasury. They are appointed by the Crown on the recommendation of the Home Secretary and give full time to their duties. Only barristers of at least seven years' standing are eligible for appointment. The mayor of the borough is ex-officio a justice of the peace and may preside when the stipendiary magistrate is absent. The Court of Summary Jurisdiction is the English city's police court, with authority to impose penalties or to hold offenders for trial by the higher tribunals. General instructions as to procedure in all the lower courts are issued by the Home Office and a fair degree of uniformity is secured in this way.

3. The Higher Courts.

Both classes of lower courts, Petty Sessions and Summary Jurisdiction, do their work without the aid of juries. Appeals can be taken from either to certain higher courts, namely the Court of Quarter Sessions, the County Court, and the High Courts of Justice. The respective jurisdictions of these various courts, both original and appellate, are rather complicated matters; even English lawyers do not always understand them. Nor is this matter germane to the present discussion which has to do with municipal government only. It is enough to point out that in England the larger towns have local tribunals which differ in organ-

[1] The office is one of great antiquity and originally was administrative rather than judicial in its nature. While the appointments are made by the Lord Chancellor it is usual to follow recommendations of a local advisory committee made up in each county of representative men drawn from all political parties. Justices are removed by the Crown for cause at any time.

ization and competence from those of the rural districts and the smaller urban communities, but that both classes of courts are integral parts of the national judiciary. The magistrates are neither elected nor locally appointed; they are national officers.

Municipal Courts in the United States:

1. Their Early Development.

In the United States the development of judicial administration in the cities has taken a varied course. Originally it was borrowed from the plan which existed in the corporate boroughs of England during the seventeenth and eighteenth centuries. The mayor and the aldermen of the colonial boroughs were ex-officio justices of the peace. As such they tried minor cases individually and as a body determined appeals. They were unpaid laymen, often without any knowledge of law, and combined administrative with judicial functions. Even after the Revolution this system was for a time continued; but as American cities grew in size it became unsatisfactory and provision was made by the state legislatures for the appointment of regular paid justices or magistrates. For a time the mayor and aldermen continued to exercise their judicial functions collaterally; but ultimately their work became entirely non-judicial, save in exceptional cases. At the outset the appointment of these paid justices was sometimes vested in the hands of the city council, so that the courts were in effect municipal courts; but in time the appointing power was in some cases taken over by the state authorities, while in other cities the magistrates were chosen by popular vote.

Evolution of an Elective Municipal Judiciary.

This movement for the election of judges, in both local and higher courts, gained great headway during the second quarter of the nineteenth century. Its progress reflected the influence exerted by the new states of the west, particularly during the Jacksonian era. These pioneer communities desired that the administration of justice should be cheap, simple, expeditious and "democratic." A rough and ready way of obtaining these qualities in judicial administration seemed to be afforded by the plan of electing judges for short terms. So the elective judiciary found favor in the frontier communities and gradually worked its way back into the more settled regions of the east. But it did not gain acceptance everywhere; in New England, for example, the echoes of frontier influence were scarcely heard at all. Other currents and cross-currents of opinion have had their effect upon judicial organization in different parts of the country during the

past seventy-five years; but they have not shown an equal degree of strength everywhere. The result is that today one finds the greatest variation throughout the country not only in the method of selecting municipal judges but in the organization, jurisdiction and procedure of the lower courts.

Reason for the Lack of Uniformity in American Judicial Organization.

There is no reason, when one comes to think of it, why judicial administration should be uniform in all communities, whether rural or urban, large or small. The agricultural areas, and the small towns, in which conditions of life continue to be simple, have no need for any high degree of legal expertness in their local courts. Many of them still proceed on the principle that any honest and sensible citizen is competent to be a local justice if chosen to that office by the votes of his fellow citizens. But in the large cities, where the work of administering local justice is far more burdensome and more technical, this rudimentary arrangement is not practicable and it has been almost everywhere abandoned.

Present Methods of Selecting Municipal Judges.

Although the judges or magistrates are still elected, in most of the larger cities, by direct vote of the people, the range of choice is usually restricted, either by law or by custom, to those who have some legal qualification. In Chicago the justices of the municipal courts are elected by the people for four-year terms; in New York the police justices are appointed for ten-year terms by the mayor; in Boston the justices of the municipal and district courts are named for life by the governor; in some southern cities the municipal justices are still appointed by the city council. Taking the country as a whole, popular election is the most common method. In some western cities the municipal judges may be recalled from office by popular vote.

The Absence of Elective Justices in European Cities.

Nowhere in Europe are judges of the regular courts elected by the people or appointed by any local authority. Nowhere do they hold office for short terms. In England, during the great reform epoch (1830-1835), it was proposed to give the borough councils the right to appoint the local justices; but this concession to the democratization of the borough courts was refused by Parliament. The establishment of the Third Republic in France, although it ensured the communes an increased measure of local discretion in the choice of their own administrative officers, gave them no right to choose their *juges de la paix* who continue to be named by the national government on the recommendation of the Minis-

ter of Justice.[1] In each of the larger municipalities there is a District Court (Tribunal d'Arrondissement) with wider jurisdiction than that possessed by the justice's court; the judges of this tribunal are also appointed upon recommendation of the Minister of Justice whose discretion is limited by the requirement that he shall take names in a prescribed order from a promotional list.[2] Even in the German cities, despite the upheaval of 1918, the local judges or *Amtsrichters* continue to be named by the central authorities. The argument which is usually advanced in favor of an elective judiciary, namely, that democratic government involves popular control of the enforcement as well as the making of the laws, has thus far found no acceptance in European countries.

The Police Courts of American Cities Are Really State Courts.

It is therefore more nearly correct to speak of municipal courts in the United States than it would be in any other country. Many American cities elect their own local magistrates, pay them from the municipal treasury, and may even recall them from office by popular vote. A considerable portion of the work which these local justices do, moreover, is connected with the enforcement of the municipal ordinances. Nevertheless, and in spite of all this, the police courts and other tribunals which function in American cities are not municipal courts in the sense that we speak of municipal councils or municipal administrative boards. They are an integral part of the state's judiciary machinery; their organization is determined by the state law even in its details; their decisions may be appealed to the higher state courts, and their primary function is to administer the laws of the state. So when we speak of "municipal courts" it is well to sound a *caveat lector*. To say that there are three sets of courts in the United States, national, state and municipal (as there are three spheres of government) would be very misleading. There are two collateral systems of the judicial administration, national and state. The municipal courts, like the district and the county courts, are merely subordinate branches of the state judicial system.

[1] The method of appointment and the qualifications are regulated by the Law of June 14, 1918. The Minister of Justice acts on the advice of a board made up of certain judges and other judicial officers. Certain legal qualifications are essential.

[2] This list is compiled, on a basis of seniority and merit, by a judicial board.

Great Importance of These Lower Tribunals.

But although the municipal courts are subordinate tribunals, this does not mean that they are unimportant, or undeserving of attention from students of municipal government. On the contrary the organization and procedure of these city tribunals are matters of the utmost importance today. This is particularly true of the police courts, or courts of minor criminal jurisdiction, upon which the maintenance of law and order depends. Without loyal and intelligent support from these tribunals the police find the ground cut from under their feet. The masses of the people, especially among the foreign-born populations of the cities, obtain their conceptions of American justice from the work of the city courts; they rarely come into relation with the higher branches of the judiciary. If the lower courts are corrupt or susceptible to partisan influence the underworld is quick to find it out; and by its whisperings carry to thousands of minds the impression that all tribunals of justice are purchasable or partisan. This is what has happened, with or without good reason, in many of the larger American cities. It is the outcome of several defects in the judicial system,—the poor organization and poorer articulation of the municipal courts, the policy of electing police judges and magistrates on partisan ballots, the maze of technicalities in which the administration of local justice has become enmeshed, the ease with which one may appeal if he has the price, the occasional corruption of judicial officers, the avarice of bail commissioners, and the lack of sympathy which so often chills the atmosphere of the court room.[1]

The Need for Unification in the Judicial Systems of American Cities.

In the United States the municipal courts are often badly organized. In small cities a single court is established; then, as the community grows larger and the work becomes too heavy for a single court, a division into districts is made, each district obtaining its own police judge who is frequently elected by the voters of the district. Later, as the occasion arises, special courts are established—juvenile courts, courts of domestic relations, night courts, and so on. Each is in a position of relative independence and subject to no central supervision except insofar as this can be exercised by the higher state courts in deciding

[1] There is no intention to imply that the maintenance of high judicial standards depends upon the municipal courts alone. The criminal elements often look above the lower tribunals to lenient, partisan, or corrupt prosecuting attorneys, or to the innumerable possibilities of ultimate escape from punishment which are afforded by appeals and legal technicalities.

appeals. The inevitable result is a variety of methods, standards, and attitudes in the administration of elementary justice. The same offence is dealt with according to varying degrees of severity in different parts of the same community.[1] Even though the judges be men of conscience and integrity this lack of uniformity is inevitably construed by the popular mind to be an indication of judicial partiality and unfairness. Several of the largest cities, including New York, Cleveland, Detroit, and Chicago, have now unified their municipal or magistrates' courts by establishing a single tribunal, its work divided among different branches. The judges are elected by the people of the whole city in Cleveland, Detroit, and Chicago; in New York the magistrates are appointed by the mayor for ten-year terms. In Chicago the chief justice presides at a weekly meeting of all the judges, this weekly session being used as a means of securing uniformity. There are thirty justices, besides the chief justice, in all branches of the Chicago municipal court.[2]

The Examples of New York, Chicago and Cleveland.

The American Judicature Society has prepared a model plan of judicial administration for use in larger cities based upon the principle of a single court with its work apportioned among five divisions.[3] It is proposed in this plan that each division should have a presiding justice whose duty, in addition to hearing cases, would be to assign the other judges within the division to their respective branches of work. The five presiding justices of divisions, together with the chief justice of the municipal court, would form a judicial council, with power to regulate procedure and to exercise a general supervision over the workings of the entire judicial machinery.[4] Justices might be transferred from

The American Judicature Society's Plan.

[1] In Boston, for example, there are seven district courts and a juvenile court. The judges are appointed for life and have no centralized relation or responsibility.

[2] For a description of this court and its work see Illinois Constitutional Convention *Bulletins* (Springfield, 1920), pp. 776-779.

[3] American Judicature Society *Bulletins IV A and IV B* (1914). See also the National Municipal League's *Municipal Program* (New York, 1919), pp. 228-250, and Herbert Harley "The Model Municipal Court" in *National Municipal Review*, Vol. III, pp. 57-67 (1914). The five divisions are as follows: (1) equity, (2) probate and domestic relations, including divorces and juvenile offences, (3) civil cases with juries, (4) non-jury civil cases, (5) criminal cases. This fifth division might have a dozen justices, each sitting in a different part of the city.

[4] In order to make this council consist of an odd number, seven, one senior judge is added.

one division to another in order to relieve congestion at any one point. The adoption of this plan, or something like it, would greatly improve and unify municipal court work in the larger cities.

The Practice of Electing Municipal Justices is Open to Serious Criticism.

No reform in municipal court organization will greatly avail, however, if the local justices are selected in such way as to preclude the choice of capable, honest and impartial men. The plan of popular election is widely used in the cities of the United States and it is supported by a widespread conviction that it is the only way of keeping the courts "close to the people." But popular election, as experience has shown, does not always mean that the people do the choosing; in many cases their only function is to ratify a choice made for them by a few political bosses or by powerful economic interests which have selfish ends to serve. It has even happened that law-breaking elements, through their control of the party machine, have virtually dictated the nomination and election of judges favorable to themselves. Conspicuous instances of partisanship and crookedness on the municipal bench have led to demands for the abolition of the elective method and the substitution of an appointive judiciary.[1] It ought to be added, however, that in those cities where the local bar association exerts a powerful influence over the choice of candidates and where judges with good records are re-elected as a matter of course, the elective plan has achieved tolerably good results.

Is the Appointment Plan Much Better?

But the practice of appointment, exercised through the ordinary channels, would not ensure the elimination of politics and personal favoritism from the municipal courts. Mayors and governors are themselves partisan and at times subservient to special interests. A stream will rise no higher than its source; a partisan or corrupt executive cannot be relied upon to appoint an upright judge. Mayors and governors are not primarily concerned with the functioning of the local courts in any case; their work and responsibilities are chiefly of an administrative character. On the whole, however, the plan of appointment has

[1] "It is impossible to escape the conclusion that in a metropolitan district with one hundred thousand voters and upward, the selection of judges by the electorate is practically impossible. It is equally certain that the judges in such a community must be selected by some appointing power. The real and only question is: What is the best method of appointment?" Albert M. Kales, *Unpopular Government in the United States* (Chicago, 1914), pp. 234-235.

proved to be more satisfactory than the plan of election. The longer the term for which municipal judges are elected, moreover, the better has this method seemed to work. It has been suggested that municipal justices ought to be appointed by the judges of the higher state courts, who are themselves elected,[1] or that the people of the city should elect the chief justice only, leaving him to choose his associates as a President chooses his cabinet.[2] There are serious practical objections to both of these proposals and they have not yet found adoption anywhere in the United States.

The Qualifications of a Police Justice.

But whatever the method of selection it is generally assumed that no one can be a capable judge of a municipal court unless he is a lawyer by profession and it is everywhere required, either by statute or by custom, that those who are elected or appointed shall have this qualification. In certain branches of municipal court work, if not in all of them, this is a necessary provision. No layman is qualified to handle equity cases, or to sit with a jury in civil controversies, even in a local court. To permit this would mean innumerable appeals and the wholesale setting aside of judgments. Even in the handling of minor criminal cases an elementary knowledge of the substance and the forms of law is essential. But successful work on the bench of a police court does not depend upon legal scholarship alone. The common sense of the police justice, his knowledge of human nature, his ability to grasp the essentials of every case that comes before him —these are the things that count. The magistrates of New York City have before them every year more than 150,000 cases ranging from serious felonies to minor infractions of the traffic rules. It requires no small amount of worldly wisdom to deal fairly with this enormous grist of cases.

Serious Defects in the American Police Court System:

1. The Abuse of the Appeal Privilege.

The administration of criminal justice in American cities has suffered grievously by reason of the ease with which cases may be appealed from the municipal police courts and the frequency with which convictions are set aside on technical grounds. The whole trend of judicial administration in the appellate courts has

[1] For an argument in favor of this method see Dorman B. Eaton, *The Government of Municipalities* (New York, 1899), pp. 444-445.

[2] This is one of the alternative recommendations of the American Judicature Society. See *above*, p. 212 *footnote*. A plan for its adoption is set forth in A. M. Kales, *Unpopular Government in the United States* (Chicago, 1914), pp. 239-250.

been so strongly directed toward safeguarding the rights of the individual that the safety and welfare of the community are often menaced.[1] It has been said that a criminal trial, according to American procedure, is "a game in which the defendant is given every chance to escape, fair and unfair, while every possible obstacle is placed in the way of the prosecution." This may be somewhat overstating the matter, but it is beyond question that American methods of criminal procedure give the crook a better run for his money—when he has the money—than he would get in any other country. The absurdities which clever but conscienceless attorneys have successfully spun to defeat the ends of justice are almost beyond belief.[2] One of the urgent needs of today is that of rendering these perversions of justice impossible. All the states should do what more than half of them have already done, namely, provide by statute that no police court decision shall be overturned by reason of technicalities which do not affect the substantial merits of the case or the plain constitutional rights of the defendant.

2. The Law's Delays.

The most conspicuous feature of judicial procedure in American cities is its slowness. Weeks, months, and even years often elapse before ordinary cases are finally cleared from the docket. These delays facilitate the miscarriage of justice. They make it easier to tamper with witnesses and jurors. In its excitement over fresh crimes the public forgets all about the old ones for which no one has been punished. Thus it becomes easy to let cases drop, or to place them on file, or otherwise to accord a measure of leniency which public sentiment would never have tolerated when the details of the offence were fresh in mind. These delays, postponements, and continuances can only be avoided by radical simplification in the system of judicial procedure.

[1] See Moorfield Storey, *The Reform of Legal Procedure* (New Haven, 1911).

[2] Mr. Raymond B. Fosdick in his *American Police Systems* (New York, 1920), p. 29, gives the following examples: Conviction for murder set aside because the word "aforethought" was omitted after the word "malice" in the accusation (Etheridge *v.* State, 141 *Alabama*, 29); conviction for assault with intent to kill set aside because the copying clerk left out the letter *l* in the word "malice" (Wood *v.* State, 50 *Alabama*, 144); conviction for theft set aside because the State was mentioned in the indictment as *W* Virginia instead of *West* Virginia (Lemons *v.* State, 4 *W. Virginia*, 755). Such instances, it is only fair to say, are steadily becoming less common.

The More Speedy Handling of Cases in European Cities.

The far more expeditious handling of cases in the courts of England, France, Germany, and other European countries has been commented upon by all American lawyers who have closely observed the administration of criminal justice overseas. The procedure in European police courts is summary in character; even complicated cases are tried and disposed of quickly. Appeals are relatively few, and when taken they are heard speedily. The judges deny all motions which seem to aim at delay for delay's sake, and in so doing they can count upon support from the highest courts of the land. But in America the course of a criminal process is often a long record of continuances, postponements, exceptions, motions in arrest of judgment, appeals, pleas for a new trial, and all the other instrumentalities of delay or evasion that the resourcefulness of the defendant's lawyers can devise.

3. The Shyster Lawyers Who Practice in the Police Courts.

Various evils connected with the administration of justice in the cities have grown up in and around the courthouse but outside the control of the courts. Third-rate lawyers who prey upon the unsophisticated, and particularly upon the foreign-born, are responsible for much of the odium which attaches to the administration of local justice. They or their "runners" are quickly on the spot whenever an arrest is made or a prisoner brought in, volubly advising the offender concerning his "constitutional rights" and ready to defend him in court. The fees which these men charge are extortionate and the service which they render is usually worthless or worse. Their methods only serve to prejudice judges and juries against those whom they represent. Nevertheless when a lawyer of this stripe loses his case he is frequently successful in convincing his client that the court was prejudiced, partisan, or corrupt. In this way an unwarranted impression concerning the integrity of the municipal courts is widely spread through the underworld.

4. The Politicians Who Whisper Something in the Judge's Ear.

The politicians are likewise in evidence around the courthouse corridors. The first thing that offenders often do, on being summoned to court or arrested, is to get into touch with the local senator, assemblyman, or city councillor. The idea is to have the political officeholder interview the judge or magistrate before the case is called for trial and put in a plea for leniency. In Boston the surest place to find certain politicians is at one of the district courthouses any morning before the court opens. It

is not that they actually influence the minds of the local justices, but they make a brave showing of activity and often manage to convince the offender that he got off lightly by reason of it. Thereby the notion is sedulously propagated that the administering of justice in the local courts is largely a matter of political and personal favoritism.

5. Abuses With Respect to Bail.

Serious abuses have arisen also in connection with the furnishing of bail. The constitution of the United States, and those of most of the states, stipulate that "excessive bail shall not be required" from persons accused of crime. Subject to this general limitation the exact amount is left to the discretion of the courts. Bail is furnished by having somebody file a bond, or by depositing cash, with the clerk of the court. Then, if the accused person does not appear when called for trial, the bail is forfeited. Applicants for bail are so numerous in the larger cities, however, that a class of professional bondsmen and bail brokers has been brought into existence. Such professionals haunt the jail neighborhoods and the courthouse corridors, ready to provide bail for anyone, even a complete stranger, if they are well paid for it. These leeches prey upon the innocent and the depraved alike. It is by reason of the professional bondsmen that many criminals obtain their liberty and are enabled to continue their depredations. Often there is an unholy alliance between the bail brokers and the police or court officers, each keeping the others informed to their mutual advantage.

When an old offender is out on bail it becomes his interest to delay trial as long as possible by placing every obstacle in the way of the prosecution. It is the aim of his counsel to wear out the patience of the police and to gain the advantage which arises from the fact that juries dislike to convict a man for a crime committed several years previously.[1] So long as a skilful pickpocket, bootlegger, hold-up man, forger, smuggler, or other criminal is out on bail he can earn enough from the pursuits of his nefarious profession to employ lawyers, to pay bondsmen, and to finance a prolonged fight in the courts. Thus it is that

[1] In Chicago a certain defendant was indicted for murder in March, 1911, and admitted the act. In the following month he was released on bail. He was not brought to trial until March, 1916; his case was then continued, and re-continued until December, 1919, when a jury, on hearing the evidence, returned a verdict of not guilty. Raymond B. Fosdick, *American Police Systems* (New York, 1920), pp. 40-41.

malefactors struggle out of the law's clutches by continuing their defiance of the law.

The Specialized Courts:

A noteworthy improvement in the administration of justice has been secured, during the past twenty years, by the establishment of special courts, or in some cases separate divisions of the municipal court, to deal with certain classes of offences or offenders.

1. Night Courts in Large Cities.

Night courts in New York City have proved their usefulness in expediting the disposition of minor offences and obviating the need for a bondsman's services. When it is borne in mind that more than half the persons brought into the municipal police courts are discharged, it is easy to appreciate the injustice of holding all arrested persons in jail overnight unless bail can be provided. The night courts, by the quick disposition of a large number of relatively unimportant cases, relieve the pressure upon the regular day sessions.

2. Courts of Domestic Relations.

In several of the larger cities there are courts of domestic relations whose function it is to deal with questions of desertion and non-support as well as with family quarrels in which the need is more frequently for adjustment and admonition than for punishment.[1]

3. Traffic Courts.

Infractions of the traffic rules, particularly by motorists, have become so prolific that they tend to clog the ordinary police court dockets. Chicago has taken steps to relieve this congestion by establishing an "automobile branch" of the municipal court (a "speedster's court," it is colloquially called) which deals with these matters promptly and uniformly.

4. Small Claims Courts.

Several cities have also established small claims courts or courts of conciliation to deal with civil cases in which the amount involved is relatively small.[2] These courts endeavor to have such controversies adjusted by agreement of the suitors, thus saving the delays and expense of litigation. The small claims branch of the Chicago municipal court handles about 13,000 cases a month, of which three-fourths are settled without a formal adjudication by the court itself.

5. Juvenile Courts.

Juvenile offenders in practically all the larger cities are now brought before a special juvenile court or before a separate branch of the municipal court; but the problem of dealing wisely with juvenile transgressors, as well as such matters as the probation system and the reformation of offenders

[1] These courts do not have jurisdiction in divorce cases.

[2] For data on these matters see R. H. Smith, *Justice and the Poor*, (New York, 1919), pp. 41-59.

can be more appropriately discussed in connection with the subject of crime and correction.[1]

Who is to Blame for the High Criminal Ratio of the American City?

We hear a great deal nowadays about the deficient respect for law and order among the people of the United States, as though this were demonstrably a national shortcoming. It is probably true that there is more undisciplined and mischievous propensity floating loose in the heterogeneous population of the United States than in that of any other civilized country; but this alone does not account for the dismal showing which the American statistics of criminality present. It is customary to blame the heterogeneity of the population for the excessive volume of crime in American cities and the statistics support this indictment to some extent. They indicate that America's crime rate is augmented by the presence of unassimilated races. But it is also true that the crime ratio among the native-born white population in American cities is higher, on the average, than in the municipalities of Europe. For this, it is clear, the alien cannot be blamed.

And What is the Remedy?

To some extent the situation may be due to that inherent strain of impatience with legal trammels which is said to characterize the American temperament. It may be, in part, a relic of the old frontier influence which has colored so many aspects of American life. In larger part, more probably, it is due to gross deficiencies in the machinery which American cities have provided for the prevention and punishment of crime. It has been said, and it is probably true, that American democracy has made its poorest showing in the administration of criminal justice. But how may this situation be bettered? Not by applying the customary American remedy—more laws. There is already enough law and to spare. What the cities need is not more law but more enforcement. The need is for an improvement in both the methods and the personnel of law enforcement, for better court organization, for specialization under unified supervision, for simpler procedure, and for more competent judges. The last should come first. The human equation is even more important in this than in the administrative branch of city government. The courts are the most vital among all the institutions of free government. Corruption and incompetence are serious evils when they invade the mayor's office or the city council chamber; but when they enter the portals of the courthouse they are striking

[1] See *below*, pp. 232-234.

at the very heart of democracy. The Great Charter of 1215 compelled a tyrant to promise that justice should not be "sold, delayed or denied to any man." No community can ever maintain a system of free government based upon any other principle.

## REFERENCES

Brief discussions of municipal courts and their procedure may be found in H. G. James, *Local Government in the United States* (New York, 1921), pp. 352-357; C. A. Beard, *American City Government* (New York, 1912), pp. 173-184; F. J. Goodnow and F. G. Bates, *Municipal Government* (New York, 1919), pp. 265-274; C. R. Woodruff, editor, *A New Municipal Program* (New York, 1919), pp. 228-250, and W. F. Dodd, *State Government* (New York, 1922), pp. 341-359, *passim.* There is a good chapter on "Municipal Courts" in John F. Dillon's *Commentaries on the Law of Municipal Corporations* (5th edition, 5 vols., Boston, 1911), Vol. II, pp. 1115-1136, and an excellent account of police court powers may be found in Eugene McQuillin's *Treatise on the Law of Municipal Corporations* (Vols. I-VI, Chicago, 1911-1913; Supplementary Vols. VII and VIII, Chicago, 1921), under the head of "Actions to Enforce Police Ordinances." Roscoe Pound's article on "The Administration of Justice in the Modern City," *Harvard Law Review,* Vol. XXVI, pp. 302-328 (1913), is the most useful short discussion of the subject.

There is a great deal of new and interesting data in the report on *Criminal Justice in Cleveland* (Cleveland, 1922), and in R. H. Smith's *Justice and the Poor* (New York, 1919). Attention should also be called to D. A. Baer's article on "Justice for the Small Man: A Modern Municipal Court in Operation," published in the *Century Magazine,* Vol. XC, pp. 144-148 (May, 1915); W. McAdoo's "Protecting the Poor Man in Court," printed in the *Forum,* Vol. LXIII, pp. 345-354 (March, 1920), and the leaflet on "Criminal Justice and How to Achieve It," issued by the National Municipal League. There is a readable discussion of the police judge and his relation to the public in G. W. Alger, *The Old Law and the New Order* (New York, 1913), pp. 183-211.

On the modernization of municipal courts it may be well to mention the *Second Draft of a Model Act to Establish a Court for a Metropolitan District,* issued by the American Judicature Society (Chicago, 1916), Bulletin IV, B. See also the references at the close of Chapters XXXI and XXXIII.

# CHAPTER XXXIII

## CRIME AND CORRECTION IN CITIES

"The study of social infirmities and deformities, with a view to their cure," says Victor Hugo, "is a sacred duty. He who would lay bare the mysterious springs of human action must descend with a heart full at once of charity and severity—as a brother and as a judge—into those impenetrable casemates where crawl in confusion those who bleed and those who strike, those who weep and those who curse, those who fast and those who devour, the wronged and their oppressors. Is the underworld of civilization, because it is deeper and more gloomy, less real and important than the upper? Can we know the mountain, if we know nothing of the cavern?"

The Underworld of Civilization.

Poverty and crime are in large measure the product of the same conditions. Alike they are the outcome of both subjective and objective causes; alike they spring from the shortcomings of the individual and the defects of his environment; poverty begets crime and crime finds some of its inspiration in poverty. Find the haunts of one and you are not far from those of the other. In the great cities where poverty is the most widespread, crimes are also the most numerous. In times of unemployment and business depression poverty increases; so does crime. The relation of the two is organic, not incidental. For that reason poverty and crime ought logically to be dealt with in the same chapter; but logic must sometimes give way to practical considerations. In this case the objection to a joint discussion is twofold: it would be an insult to the honest poor, and it would make the chapter too long.

Poverty and Crime —Their Affinity.

A crime is "an act forbidden by the law of the land, and one which is considered sufficiently serious to warrant providing penalties for its commission." [1] It does not follow that the act

Definition of Crime.

[1] Clarence Darrow, *Crime: Its Cause and Treatment* (New York, 1922), p. 1.

is necessarily bad, or that it involves moral turpitude. Crimes are punished because they are offences against an organized society which tries to protect the common interest of its members by making and enforcing laws. In primitive times all offences were regarded as having been committed, not against organized society, but against some individual. What we now call crimes were rated as torts or civil wrongs. The person who stole was looked upon as having wronged the rightful owner and the owner was entitled to take his own redress. In the Mosaic Law, if an ox gored a man, the ox had to be surrendered for vengeance. At Athens, when a man was killed by the falling of a branch from a tree, the kinsman of the deceased cut down the tree with due ceremony. In England, during early Saxon times, the slayer of a citizen atoned for his offence by paying a fine (*bot* or *wer*) to the family of the slain individual. If the slayer did not have wherewithal to pay, his relatives and associates (gild brethren) had to pay it.[1] Every offence had its stated measure of atonement to the wronged individual or his kinsman.[2]

The Ancient Confusion of Crimes and Torts.

But with the development of early civilization there grew up the idea that the whole community had an interest in the restraining of personal vengeance, that it should stand as arbiter between the parties, and that wrongs ostensibly done to individuals were in effect a challenge to the social order. So society took upon itself the duty of protecting the rights of individuals, and of imposing punishment whenever these rights were violated. The body politic assumed the duty of prosecuting offences and even the function of determining whether there should be any prosecution at all. This change came about gradually and was due to the rise of what one might call a "community consciousness" which went hand in hand with the growing strength of governments. It was not due to the legal genius of any one race. The list of offences against the individual narrowed while the category of crimes was steadily increased.[3]

The Modern Separation of the Two.

[1] "If a man, kinless of paternal relatives, fight and slay a man, then if he have maternal relatives, let them pay a third of the *wer;* his gild brethren a third; and for a third let him flee. If he have no maternal relatives, let his gild brethren pay half, and for half let him flee." Extracts from the Early Laws of the English (Reign of Alfred the Great) in William Stubbs, *Select Charters* (Oxford, 1895), p. 63.

[2] See the scale of fines in *Ibid.*, pp. 65-66.

[3] A brief discussion of this development is in Sir Henry Maine's *Ancient*

The Classification of Crimes.

It was of old the custom to classify crimes as treasons, felonies, and misdemeanors. A treason was an attempt to overthrow the state by rebellion or otherwise; a felony was a serious offence against persons or property, such as murder or burglary; while the term misdemeanor was used to include all the less serious violations of the law, such as loitering on the public highways or keeping a dog without first procuring a license from the public authorities. Nowadays a more elaborate grouping of crimes is usually made. This classification often includes, (a) offences against the public peace and order, such as treason, rioting, and any obstruction of the officers of the law; (b) offences against the public health and morals, such as bigamy, gambling, the sale of intoxicants, or the pollution of the public water supplies; (c) offences against the person, such as murder, manslaughter, or assault; and (d) offences against property, including burglary, theft, and fraud. This list, it will be noted, does not include such things as breaches of contract, libel, trespass, or failure to pay debts: these are not crimes but torts or civil wrongs. They are still regarded as offences against individuals and not against society. The aggrieved individual brings his own suit in the courts, and the courts merely act as arbiters to see that justice is done between man and man.

Classification of Criminals.

As there are various classes of crime, so are there various types of criminals. There is the first offender, the individual who has not been previously before the courts and who is still within the reach of reformatory methods. From thirty to forty per cent of the men, women, and children who commit crimes are in this category. Second, there is the habitual criminal, the seasoned professional who is never out of the law's clutches for any long interval. Although criminals of this class form about a third of the total incarcerations they commit more than that proportion of the crimes—usually several crimes for one conviction. Being for the most part unrelenting, and often degenerate, these men and women present the most difficult problems of custody and correction. Finally, there is a class which stands somewhere between the two foregoing extremes, made up of delinquents who are gravitating to a career of crime but have

*Law* (New York, 1888), Ch. X (The Early History of Delict and Crime). A more extensive account is given in J. W. Jeudwine, *Tort, Crime, and Police in Mediæval Britain* (London, 1917).

not yet made it their profession. Most criminals in all three classes are below average standard of adult intelligence; but a certain proportion (more particularly among those who make a specialty of forgeries and frauds) are above it. Of the total number of persons sentenced to penal institutions less than one-fifth are women. In both sexes the majority of criminals are under twenty-five years of age.

The Causes of Crime.

The causes of crime, like those of poverty, are both individual and social. Some men are born criminals; some are made; some are both born and made. The line between heredity and environment is hard to draw.[1] Men sometimes take to wrong-doing because they have inherited traits of degeneracy. Handicapped by these defects in making an honest living they resort to crime at an early age. Bad training in the home, habits of truancy acquired during school age, intemperance, addiction to drugs, and aversion to work are subjective factors which promote criminality. The social causes include poverty, unemployment, illiteracy, the absence of wholesome recreation, the influence of bad companions, the lack of efficiency on the part of police in cities, the undue leniency of the courts, and the difficulty which even honest men sometimes encounter in obeying the host of laws which our lawmakers are turning out every year.

Individual and Social Causes.

Relation of Crime to Unemployment, Illiteracy, and so Forth.

It is significant that crimes against property, such as burglary and theft, become less frequent when the country is prosperous and more numerous in times of depression when many persons are out of employment. Man is by nature a predatory animal as is shown by the fact that more than three-fourths of all the crimes committed in civilized countries involve the wrongful taking of some other man's belongings. Among illiterates the proportion of offenders against the law is very high, so that the failure to enforce rigidly the laws relating to school attendance may properly be set down as one of the causes of crime. But the environmental causes of crime are amazingly complicated and not all of them have yet been adequately

[1] *The Second Report of the Chicago Crime Commission* (1921) gives the following as the "underlying causes of crime" as deduced from a study of the conditions in that city: bad heredity, mental defectiveness, unhealthy home environment, infective environment, lack of moral training, lack of respect for constituted authority, commercialized recreation, social injustice, immigration, and maladministration of justice. The report discusses each of these causes in a concise and illuminating way.

studied. It is a rather curious phenomenon, for example, that crimes against the person (such as manslaughter and assault) are relatively more numerous in hot climates, while crimes against property (such as theft and embezzlement) are relatively more numerous in the colder zones. The same holds roughly true of the winter and summer seasons everywhere. Some races are more addicted to certain types of crime than others, and communities peopled by the same race sometimes show a great variation in their criminal propensities. Density of population likewise has a relation to crime, a very close relation, as has been indicated in a previous chapter.[1]

Crime as an Aftermath of War.

The crime ratio increases after the close of a war; the Napoleonic Wars left a legacy of crime in all the countries of Europe. The American Civil War was followed by crime waves in both the North and the South. There is some psychological relation between war and crime; what it is we do not fully understand. The science of criminology, which deals with the causes of crime, is yet in its infancy. Until only a few generations ago all crimes were attributed to individual perversity, the environment of the criminal being given no attention. Today those who have even a slight knowledge of the subject realize that social factors of great complexity are at work in producing the annual crop of malefactors.

The Crime Ratio in the United States.

It is a rather doleful commentary upon the progress of American civilization that crimes of violence are relatively more numerous in the United States than in any other civilized country. The number of felonious homicides (including murder and manslaughter) is nearly ten thousand per annum. That is to say one person in every hundred thousand is done to death by pistol, blackjack, knife, or other deadly instrument each year. Likewise in burglaries and robberies the United States holds the world's record. More than half a million persons are annually sentenced to jails or reformatories in the forty-eight states. The number of those who are placed on probation or let off with the payment of fines is considerably larger. Even these two figures put together do not give us the total number of offences committed, however, for a great many are followed by no detection of the guilty person, and many minor crimes are not reported to the police at all.

[1] *Above*, Vol. I, Chap. VII.

How is the Increasing Crime Ratio to be Explained?

Whether the number of crimes, taking the country as a whole, is increasing more rapidly than the growth of population we do not know with certainty. This is because the figures in some states are not carefully or uniformly compiled. To some extent the increase in recorded crimes may merely indicate that the records are being more fully and more accurately kept. To some extent it may be due to the fact that many things are now crimes which were not crimes some years ago, the transportation of intoxicating liquors, for example, or the reckless driving of an automobile. "Civilization," says Darrow, "is making it harder for men to keep out of prison." [1]

The statistics of criminality must therefore be used with caution. Nevertheless it is probably true that crime is increasing more rapidly than population in the United States as a whole, and in the cities there is no doubt of it.[2] The cities and towns of the United States contain only half the national population, but they are the habitat of nearly nine-tenths of the criminals. This is not altogether surprising because a thickly-peopled community not only affords more opportunities for illicit gain through the commission of crime but offers a better chance of escaping detection. The movement of the rural population into the cities is practically certain to increase the crime ratio in any country.

The Cost of Crime.

The cost of maintaining police forces, bureaus of criminal investigation, police courts, probation officers, parole agents, special courts of all sorts, prisons, houses of correction, parental schools, and other penal or reformatory institutions is enormous. It amounts to about a billion dollars per year—as much as the country spends upon public education. Assuming that half this expense is due to the habitual criminal, and that habitual offenders number say a quarter of a million, it means that every hardened offender costs the country about $2000 per year. Nor does this tell the whole story of the financial loss involved. The country loses what the labor of this huge array of delinquents would earn if it were diverted into honest channels. A very

[1] Clarence Darrow, *Crime: Its Cause and Treatment* (New York, 1922), p. 138.

[2] There is every reason for believing that the increase has been much more rapid than that of the population. In 1860 the total incarcerations in the United States were less than 20,000, or one person to every 1600 people; in 1920 the figure was above 120,000, or one person to every 800.

large part of the entire burden falls on the cities; directly or indirectly they have to bear at least four-fifths of it.

1. Punishment as Retribution.

In attitude toward the treatment of the criminal the opinions of mankind have passed through four stages. In primitive society the purpose of punishment was to give the aggrieved person the satisfaction of seeing his assailant crucified or mutilated or tortured. "Whoso sheddeth man's blood, by man shall his blood be shed." Next there evolved the idea that punishment should have in mind not so much the expiation of a given offence as the repression of other offences; that it should serve as a grim warning to all would-be offenders. The mediæval plan of punishment was merely the application of *Schrecklichkeit* to a portion of the criminal class for the benefit of all the rest. Men were hanged, drawn, and quartered as a public spectacle, their heads impaled on the city gates in order to provide the whole community with a ghastly and odoriferous reminder that the way of the transgressor was hard. Even minor offences brought what was known as "exemplary" punishment. In England, at the time of the American Revolution, men were being hanged for stealing small sums of money, and hanged in public so that all might see and beware.[1]

2. Punishment as an Example to Others.

3. Punishment as a Process of Reformation.

During the early years of the nineteenth century, however, this conception of punishment as an example gave way to the theory of punishment as a process of reformation. To give the criminal a new orientation became the reason for sending him to jail. Prisons became reformatories, houses of correction, houses of industry, and so on. Solitary confinement was replaced by work in the prison shops, where everyone was taught a trade. On the heels of this development came the policy of giving indeterminate sentences and allowances for good conduct, and of releasing prisoners on parole. Even after the lapse of a hundred years this theory of incarceration as a measure of reform is still strongly and widely held. But it is now being supplemented and in part displaced by a still newer idea in penal jurisprudence, namely, that the aim of the police and the courts should be, not merely to reform an offender after he has drifted into criminal ways, but to get hold of him at an early stage where he can be

[1] Even Blackstone accepted the theory that "the end of human punishment is . . . precaution against future offences of the same kind." *Commentaries*, Book IV, Ch. i.

4. Punishment as a Last Resort.

forestalled from developing a propensity to crime. Punishment is not resorted to, therefore, until all else has failed.

The criminal class derives its recruits from the young, hence the new penology aims to effect a stoppage at the source. The attempt to do this is being carried on through juvenile courts, parental schools, "junior republics," probation officers, and social workers. As the child is father to the man, so the wayward boy is father to the adult criminal. Usually he has lost one or both parents at an early age; he is often of subnormal intelligence; he plays truant and grows up illiterate; he learns no regular trade and can hold no job for any length of time; he falls into bad company because that is the only sort of company open to him. Organized society has taken too little notice of this evolution until the time comes to set its punitive machinery in operation. Then it is too late. The community which permits its youth to evolve into criminals is itself guilty of more than a crime.

Removing the Fundamental Causes of Crime.

No substantial diminution can be made in the amount of crime unless and until the authorities gain a full appreciation of its social causes and make a sustained effort to remove them. When a health officer is summoned to deal with an epidemic of typhoid his attention is not devoted to the sick persons alone but to the possible sources of infection, particularly the water and milk supplies. He knows that drugging the patients will never get the disease out of the community. But those who are called upon to deal with an epidemic of crime go at things in an altogether different way. Their prescription is simple;—round up all the crooks in the city, increase the severity of sentences pronounced in the courts; enlarge the police force; abolish the maudlin leniency of probation and parole systems—do everything, in fact, but seek the sources of the epidemic and strive to extirpate them. Crime will flourish, of course, so long as the conditions which produce it and nurture it remain unaltered. Poverty, unemployment, illiteracy, economic injustice, the unrestrained intermarriage of degenerates, the drug habit, police corruption, and maladministration of the laws will continue to provide society with crime so long as they are permitted to thrive in the great centers of population. It is not enough to reform the individual; his environment must also be reformed. It is for this reason all measures which tend to reduce poverty, unemployment, and the other social causes of crime afford the

only hope for a permanent bettering of what is now a sordid page in the records of every large American city.

The Police and Prevention.

Even today, however, the police authorities in American cities give little attention to the *prevention* of crime, and concern themselves very largely with its detection and punishment. The average patrolman is merely a sauntering symbol of our befuddled attempt to deal with breaches of the law after they occur. "There is as much room for crime prevention in our communities as for fire prevention or the prevention of disease."[1] All that can be said with reference to the value of prevention in the fields of public health applies with equal force to the problem of crime. In every large city there are many agencies of crime prevention, to be sure; but the co-ordination between their work and that of the police is rarely very intimate. Police officers, as a rule, dislike to assume any function that smacks of reclamation, uplift, or "social work." The punitive aspect of police duty is the one that usually appeals to them the most.

The Localized Centers of Crime in Cities:

(*a*) The Drinking Dive.

Every police officer knows, however, that the large city invariably contains a number of localized centers from which most of the crime radiates. The old-time saloon was one of them. It has now disappeared in the United States, although its place has been taken to some extent by bootlegging dives and speak-easys. Prohibition, nevertheless, has diminished the normal number of law violations in American cities. It is believed by some law-enforcement authorities, however, that it has also made criminals more careful in their operations and harder to detect. The yeggman and housebreaker of the old régime, his courage fortified by drink, often took long chances, and by mere reason of his bravado sometimes fell into the police net. Today he is more cautious in his operations and more circumspect in covering up the clues.

2. The Drug Den.

Places where narcotic drugs can be illegally obtained are also prolific breeding places of crime. There is no large American city in which this illicit trade has failed to gain a foothold. In New York City, a few years ago, it was estimated that no fewer than 300,000 persons—or one adult in every seven—had become addicted to the use of narcotic drugs.[2] The plague is spreading

[1] Raymond B. Fosdick, *American Police Systems* (New York, 1920), p. 356.

[2] *Journal of the American Institute of Criminal Law and Criminology* (November, 1919),

fast. Some men and women, under the spur of a craving for morphine, will hesitate at no criminal venture. The rounding up and proper treatment of these unfortunates is crime-prevention work of the highest value. Then there are such places as unregulated dance halls, pool-rooms, cheap lodging houses, and all-night lunch rooms of the poorer sort. All of them serve to some extent as the rendezvous of the criminal class. It is advisable that all such resorts be required to obtain licenses and that such licenses be revoked whenever proper causes can be shown. The habitual criminal spends a good deal of his time in these places.

3. The Brothel.

Houses of ill-fame shelter many criminals of both sexes. The old "redlight" districts which were tolerated in many American cities until public opinion rebelled against their continuance were repeatedly shown by investigators to be centers for the hatching of crime-plans. They were, indeed, known to the police to be such, but political influence often ensured their immunity from interference. In many instances they secured protection by the systematic bribery of police officers. The saloon, the gambling den, and the house of prostitution have been three powerful factors in breaking down the integrity of American police. In their attempt to eliminate these evil influences the public authorities have been greatly assisted by the enactment of "abatement laws" which hold the owners of property responsible for any illegal use by tenants, and which give the courts authority to decree the closing of any such premises. Landlords are disinclined to run the risk of having their property held tenantless for months at a time by court order.

The Treatment of Prisoners.

Until about a generation ago the treatment of prisoners in all parts of the world afforded a striking illustration of man's inhumanity to man. Offenders of every type, young and old, were usually thrown together into the same place of incarceration. The segregation of prisoners according to age, mentality, or seriousness of offence received no attention. Alike all were forced to spend much of their time in small, ill-ventilated, and poorly lighted cells. Not infrequently they were given poor food, or insufficient food, and rarely were they set to work at any useful employment. Even yet these conditions have not wholly disappeared from every part of the United States. But the movement for the reform of prisons and for the transforma-

tion of prison methods has made notable progress during the past thirty years.

Features of Prison Reform:

The main features in prison reform are worth mention, for although the movement has been nation-wide, and even world-wide, it is the cities that have the most to gain from its progress. The cities, which furnish most of the criminals, have the largest interest in determining what shall be done with them.

1. The Segregation of Prisoners.

First in point of importance is the practice of classifying prisoners in order that each class may be committed to a special institution instead of all classes being herded together in a single city prison or county jail. It is now generally agreed by penologists that hardened criminals, undergoing long terms of imprisonment, should be kept by themselves. Their presence in any place of general incarceration is a corrupting influence. First offenders, when the offence is too serious for probation, ought not to be exposed to this influence. If they are, the prison itself becomes a school of crime. There are others who also need to be segregated, such as juvenile offenders and mental defectives. Prison reform involves the separation and special treatment of each class. This means, of course, that the old-type city prison is obsolete. Instead of one grim, stone-walled, edifice with iron-barred windows, the large city of today should have several institutions of confinement and reformation—one for incorrigibles, one for juveniles, another for the psychopathic cases. Or, if the city is not large enough to maintain its own specialized institutions, the duty of providing them for all cities within its boundaries should be assumed by the state. One of the strongest arguments for closing city and county prisons, and for transferring all institutions of correction to the state, is that only in this way can the complete segregation of prisoners be brought about.

2. The Humanizing of Discipline.

Another aspect of prison reform is the humanizing of discipline. It has been the general custom in prisons to punish any serious breach of the rules by placing the offender in solitary confinement for days, or even for weeks. Better results are now being obtained by giving privileges to those prisoners who behave properly and withdrawing privileges from those who do not. This plan involves the grading of prisoners according to their conduct, the best-behaved men being placed in the first class and allowed liberties which those of the second class do not enjoy. A system

of marks and demerits is used to determine the grade of each prisoner. The relaxation of prison discipline and the development of "prison self-government" may easily be carried too far, however, and in some state institutions the thing has been overdone. But city prisons, for the most part, have responded to the new order too slowly.

3. Improving the Prison Environment.

Along with the system of classifying and grading prisoners, a general betterment of internal prison conditions has taken place. It is now generally recognized that prisoners should be kept employed at useful labor, that those who have not already learned a trade should acquire one during their prison terms, and that prisoners who are illiterate should be taught to read and write. It is also recognized by most public authorities that the labor of prisoners should not be farmed out to private employers, that prisoners should not be subjected to unnecessary humiliations (such as the wearing of striped uniforms) and that they should be given such measure of freedom from restraint as can be safely entrusted to them. Outdoor employment on state farms and state roads is replacing, to a considerable extent, the activities of the prison workshop. In some American cities it is the practice to furnish prison labor for work on public buildings or in the construction of roads even when the work is being done by contract. This practice has some financial advantages, but it does not usually conduce to the best interests of the men themselves, and it has always met with bitter opposition from organized labor.[1]

Some Reforms in Correctional Methods:

1. The Indeterminate Sentence.

Some marked improvements in correctional methods have been introduced by the use of indeterminate sentences, suspended sentences, releases on parole, and releases on probation. The old plan was to sentence every prisoner for a fixed period, two years, ten years, or for life. The convict then served out his full term, no more and no less, irrespective of his behavior. This plan is now being abolished. Instead it is becoming the general practice to make all sentences (except sentences for life) flexible by setting a maximum and a minimum, as for example not less

[1] In its place some municipalities have established an arrangement by which the prisoners are paid, on a piece-work basis, for what they do. Others are using prison labor in the manufacture of brooms, brushes, and other supplies needed by public institutions. This has the advantage of keeping prison-made goods from going on the open market in competition with the products of ordinary labor.

than two nor more than five years. By good behavior the prisoner is then enabled to secure his release when the minimum period has expired. Occasionally, moreover, the sentence is made wholly indeterminate. This method is particularly desirable in the case of young offenders who are sent to reformatories. When a sentence is suspended an offender is given his liberty on the understanding that his future behavior will be satisfactory. If it proves otherwise, the suspended sentence goes into effect without any further parleying. The parole system is also used as a means of encouraging good behavior and reformation on the part of prisoners. Where this system is in operation the courts or the prison officials are permitted to release a prisoner (either without committing him to prison or before his minimum term has expired) on his personal pledge of good behavior, or on condition that the prisoner find some reputable citizen who will stand sponsor for him. If the parolled prisoner violates this promise, he is brought back to finish his term. It has been found that relatively few prisoners fail to keep the terms of their parole.[1]

2. Releases on Parole.

The number of persons committed to prison has been considerably reduced by the use of the probation system. In the case of first offences, when the crime is not serious, it is now the general practice of courts to place the offender on probation for a given period. This means that instead of being taken to jail for even a minimum term he is placed under the surveillance of a probation officer. These probation officers are attached to the courts; their duty is to help probationers, to keep a watchful eye on them, and to report from time to time how they are getting along. When used with due circumspection and supervised by competent officers the system works admirably; but like every other channel of judicial leniency it is susceptible of abuse.

3. The Probation System.

Many people are beginning to wonder whether the reaction against old-fashioned methods of dealing with offenders has not been carried too far. Persons charged with crime are given a fair trial with liberal opportunities for appeal. When convicted they are frequently given indeterminate sentences and then, after a short term of confinement, are released on parole. In some city prisons they are well-housed, well fed, given various privileges, provided with motion picture entertainments, and fur-

The Reaction Against Undue Leniency.

[1] See the figures given in the *Second Annual Report of the Chicago Crime Commission* (Chicago, 1921), p. 25.

nished with other facilities for recreation. The complaint is made that we are making the path of the transgressor too easy. The increase of crime, particularly in the larger cities, is by some attributed to this leniency of treatment. In this connection the report on criminal justice in Cleveland, recently prepared by a group of eminent jurists, does well to point out that "the parole system represents leniency to men *proved guilty* and involves no question of punishing innocent men with which it is often sentimentally confused." [1] Is it not carrying leniency rather far when over fifty per cent of all persons convicted of serious crimes are parolled by the courts of a municipality? [2]

The Problem of Juvenile Delinquency.

Great progress has been made during the past twenty-five years in the treatment of juvenile offenders. It is a fact not commonly realized, but indisputably proved by the court records, that criminals are largely recruited from the ranks of youth. In Washington, D. C., during the year 1919, no fewer than 319 persons *under seventeen years of age* were arrested on charges of murder, robbery, house-breaking, forgery, grand larceny, and assault with dangerous weapons. Persons under eighteen years of age were formerly dealt with by the regular criminal tribunals; in most of the larger cities they are now brought before a special juvenile court. The first juvenile court in any American city was established in Boston (1898), but other cities soon followed, notably Denver, where Judge Lindsey's picturesque methods quickly brought the whole movement to public attention. This is one field of correctional activity (perhaps the only one) in which American cities are ahead of European. In cities which do not have juvenile courts the practice is to have juvenile cases brought before the regular court at a special session. The offenders, in serious cases, are usually sent to parental schools, industrial homes, reform schools, or other institutions in which vocational instruction is given. For minor offences, particularly where there is no record of a previous appearance in the juvenile court, the offender is placed in charge of a probation officer. In juvenile courts there are no formalities. The cases are conducted in a fatherly manner by the judge himself, without lawyers and jurymen, and without publicity.

[1] *Criminal Justice in Cleveland* (Cleveland, 1922), p. 325.
[2] *Ibid.*, p. 324.

The Problem of the Insane or Sub-normal Criminal.

A considerable proportion of those who offend against the law are found to be morons, or persons of sub-normal mentality. There are various forms of mental defectiveness, ranging from feeble-mindedness to violent insanity. Most of these unfortunates are popularly rated as "harmless," but too often they do not remain so when a fair opportunity to do wrong presents itself. Taking all degrees together the total number of mentally defective persons in the United States is estimated to exceed half a million. Until relatively recent years no careful distinction was made between persons afflicted with different forms of mental trouble; all were treated in much the same way. When a case came to the attention of the public authorities, a physician (often a general practitioner) was called in. After a half hour's questioning he would "pronounce" the prisoner sane or insane. In the latter event the usual plan was to commit the individual to some large asylum where he was kept under a varying measure of restraint according to his initial behavior. This crude plan of herding together all types of unfortunates, most of whom need medical treatment far more than they need a straight-jacket, is now being everywhere abandoned. Where there is reason to suspect that a person charged with crime is not mentally normal, the more enlightened practice of today is to refer the case to psychopathic experts for study and report. In some of the larger cities a psychopathic hospital is maintained in order that cases may be observed and studied during so long a period as may be necessary. If defective mentality is found, the offender is not sent to a jail or to some asylum for the criminal insane, but to an institution where treatment will be based upon the diagnosis of his particular case and where medical care will be substituted for mechanical restraint.[1] In response to proper treatment it has been found that a considerable por-

[1] About fifty years ago a famous Italian criminologist, Cesare Lombroso, propounded the theory that crime was due largely to atavism or the reversion of a civilized human to savagery. Lombroso contended that the habitual criminal could be distinguished from the normal, law-abiding individual by certain physical malformations. The Lombrosian theory provoked a great deal of discussion among students of criminology and some of his conclusions were refuted by the investigations of an English sociologist, Charles Garing. Out of the controversy has emerged, however, the general conviction that the medical, and more especially the psychiatric, aspects of delinquency and crime ought to be given more attention than they have been receiving.

tion of psychiatric cases prove capable of marked improvement, and sometimes of entire recovery. It should be added, however, that some forms of insanity are not curable by any known form of institutional treatment. A permanent reduction in the number of mentally-defective persons can best be achieved by preventing the transmission of hereditary defects, by the proper treatment of mental ailments as soon as the first symptoms appear, and by the removal of two things which have contributed to the spread of insanity in the past, namely, alcoholism and the drug habit.

Crime and Commercialized Recreation.

The matter of censorship is closely connected with the prevention of crime and the protection of public morals. The cities of Continental Europe have long been habituated to censorships of various sorts, but the general attitude of the people in the United States is against the placing of restrictions upon what they do, or read, or hear, or see. The American community has been slow in providing recreation for its people, so private enterprise has stepped into the breach. Recreation has been commercialized; its primary aim is to enrich the promoter, not to serve the ends of public education or of public order. Theatres, dance-halls, amusement parks, cabarets, and beach resorts have not hesitated to place the interests of the proprietor before those of the public. Thus far the amount of official regulation placed upon such enterprises has been relatively small. The extraordinary growth of the motion picture industry during the past dozen years, and the enormous patronage which these places of amusement enjoy today, have made the question of regulating them a live one in many American states and cities. It is alleged, and it is probably true, that while the majority of the films displayed in the theatres are not open to serious criticism, some of them are subversive of public morals. In some cities, therefore, the laws stipulate that no film shall be shown until it has been inspected and approved by a board of censors appointed by the public authorities. The heads of the motion picture industry contend that if given a fair opportunity they will do their own censoring in a way that will leave no ground for criticism. That would be a very good solution if it could be depended upon, for official censorship is not only distasteful to popular sentiment but sooner or later it becomes susceptible to influence from political sources.

The Machinery of Correctional Administration.

The administration of corrections in the larger American cities is usually placed in the hands of an unpaid board; but in some of them the board has given place to a paid commissioner. A few cities, in appreciation of the fact that the administration of correctional institutions is closely related to various other civic activities, have created a department of public welfare with jurisdiction extending over public amusements, employment agencies, consorship, and neighborhood centers, as well as over prisons and reformatories. Whether this policy will prove successful in the long run is as yet difficult to say. A serious problem in municipal administration is involved in the proper taking care of what may be called the twilight zone between departments. There are many such. The management of neighborhood centers, for example, may be given to the school authorities, to the department of parks and public recreation, or to a board of public welfare. It does not clearly belong to any one of the three; on the other hand the activity is not yet of sufficient scope and importance to have a department to itself. Poor relief and corrections were at one time under the jurisdiction of the same department in many cities; they still are in some communities, but they are being divorced. There is a relation between the social causes of poverty and crime, but there the relationship ends.

The Widening Sphere of State Control in This Field.

A further administrative difficulty arises from the division of authority, in the field of corrections, among the municipal, county, and state officials. The city may or may not have control of its own police and police courts. In any event the work of these courts is regulated to a considerable extent by state laws. Prisons, in many cases, are under the jurisdiction of county officials, which means that the city government, as such, has no control over them. The state, moreover, has steadily been taking over the function of providing prisons for long-term offenders and specialized institutions of various types, particularly for the treatment of mental defectives. The lines of demarcation between state and local functions have become badly obscured. It is beyond question, however, that the sphere of state activity in this field has been growing and is likely to grow. Some day, if this expansion continues, we may be able to strike correction from the list of municipal activities.

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# CHAPTER XXXIV

## FIRE PREVENTION AND FIRE PROTECTION

Our Annual Fire Loss.

The annual loss of life and property by fire in the United States is larger than that of all European countries put together. It has reached an alarming total and from all indications is likely to go higher still. Chicago and Paris are cities of about the same rank; but the annual losses by fire in the former city exceed those of the latter four or five times over. Whether New York has a larger population than London is a disputed question; but there is no dispute as to which has the larger number of fires. New York holds the world's record for fire losses, and holds it by a wide margin. The table printed below indicates the amount of property destroyed by fire in the United States during forty years and the continuance of the upward tendency is ominous.[1] Taking the country as a whole this destruction in 1920 averaged almost a million dollars a day. In a single year it totalled more than the entire cost of building the Panama Canal, the greatest engineering feat that the country

[1] *ANNUAL FIRE LOSSES IN THE UNITED STATES*, 1890-1920.

| *Year* | *Aggregate Property Loss* | *Year* | *Aggregate Property Loss* |
|---|---|---|---|
| 1890 | $108,993,792 | 1906 | $518,611,800 |
| 1891 | 143,764,967 | 1907 | 215,084,709 |
| 1892 | 151,516,098 | 1908 | 217,885,850 |
| 1893 | 167,544,370 | 1909 | 188,705,150 |
| 1894 | 140,006,484 | 1910 | 214,003,300 |
| 1895 | 142,110,233 | 1911 | 217,004,575 |
| 1896 | 118,737,420 | 1912 | 206,438,900 |
| 1897 | 116,354,570 | 1913 | 203,763,550 |
| 1898 | 130,593,905 | 1914 | 221,439,350 |
| 1899 | 153,597,830 | 1915 | 172,033,200 |
| 1900 | 160,929,805 | 1916 | 214,530,995 |
| 1901 | 165,817,810 | 1917 | 250,753,640 |
| 1902 | 161,078,040 | 1918 | 290,959,885 |
| 1903 | 145,302,155 | 1919 | 249,179,275 |
| 1904 | 129,198,050 | 1920 | 330,853,925 |
| 1905 | 165,221,650 | | |

has ever attempted. The buildings destroyed in a single twelve-month, if placed side by side, on lots with an average frontage of sixty-five feet, would line both sides of a street a thousand miles long. Nor do the above figures tell the whole story. Industry is interrupted, workers are thrown out of employment, and thousands of lives are lost. Insurance premiums are twice what they would have to be if losses were as low as they are in Europe. This vast destruction of buildings, merchandise, and forests is undoubtedly the greatest obstacle to be overcome by those who seek to frame a rational plan for the conservation of our national resources.[1]

**Why Is It So Large?**

In the organization of fire-fighting forces, in modernness of apparatus, and in the efficiency of fire-fighting methods, the United States is away ahead of all other countries. Yet this superiority has not availed to keep the fire losses within bounds. The great cities of Europe spend astonishingly little on the maintenance of their fire-protection services; their equipment and methods are in some cases almost grotesquely out of date; nevertheless they manage to keep fires from spreading and are reducing their losses year by year. It is well to ask ourselves why there should be so great a discrepancy in methods and results.

**1. The Inflammable Nature of American Cities.**

Three reasons account for it. First, and most important is the vast difference between European and American buildings as regards their construction. European cities are built very largely, in some cases almost entirely, of fire-resisting materials. Factories, office-buildings, stores, dwellings, even farmhouses and barns, are built of stone, brick, concrete or some other non-combustible substance. This is partly because timber for frame construction is scarce and expensive (except in Scandinavia), but in the larger European cities it is also due to the fact that the erection of frame buildings has long since been prohibited. In Berlin, for example, no such structures have been built during the last fifty years, with the result that frame buildings now form less than two per cent of the whole. Compare this with Detroit or Cleveland where they constitute more than sixty per cent.[2] Lumber has been plentiful and cheap in the United States,

[1] It has taken you about forty seconds to read the foregoing paragraph. But during that exceedingly brief space of time $500 worth of property has been destroyed by fire somewhere in the United States. Minute after minute, hour after hour, this appalling waste keeps on.

[2] The same holds true of the smaller cities. Toulon, in France, with

and has been largely used, thus providing the cities with an ever-present fire hazard. When fires break out in European communities they have little opportunity to spread very rapidly or very far. The same has been found to be true in those sections of the larger American cities where there are no frame buildings or relatively few of them. The annual fire loss in such areas is small.

The Gradual Improvement in This Regard.

American cities are thus laboring under a handicap which cannot be overcome at a single stroke. The best that they can do is to seek the general betterment in structural conditions by means of building laws strictly enforced. Indeed the larger cities of the United States have already made notable progress in this direction. In certain downtown sections the older buildings are making way, year by year, for new structures of stone, concrete, brick, and steel. Ultimately, there is little doubt, the physical fire-hazard will be as small as it is in Europe; but this consummation is yet a long way off. Meanwhile we are likely to have, from time to time, great conflagrations such as have swept a dozen or more American cities, large and small, during the past twenty-five years. There can be "no fireproof buildings except in fireproof cities." This aphorism goes to the root of the whole fire-prevention problem.

2. The Lack of Strict Fire-prevention Measures.

Another reason for the greater destruction of property by fire in European than in American cities may be found in the greater stress which Europe places upon measures of prevention. European municipalities have gone on the sensible theory that negligence or indifference on the part of the individual citizen is not exclusively his own concern but constitutes a danger to the whole community. By their laws and regulations they have carefully controlled the more common causes of fire in shops and dwellings—the heating and lighting systems particularly. It is only within recent years that American cities have given much attention to this phase of fire-prevention and even yet the regulations are applied to new construction only. There is no regular inspection of old buildings to make sure that interior fire-hazards have been eliminated. The individual owner, for his part, finds it cheaper to carry insurance than to make his premises safe. Furthermore, when a fire occurs in any American city,

150,000 population, for example, has only 150 frame buildings in all; Fall River, Mass., with 120,000 population, has nearly 14,000.

there is rarely any investigation of its causes. No inquest is held as in European communities. Fires due to accident and to gross negligence are dealt with alike: the alarm is sounded, the fire is put out, the firemen go back to their station, the insurance is collected, and no one gives any further attention to the matter. There is a popular impression that when the insurance company pays, nobody loses. But the cause of every fire ought to be investigated, like the cause of every homicide or accidental death, and where gross negligence is found there should be an appropriate way of penalizing it.

3. The National Disposition to Tolerate Waste.

Something may also be attributed to the American national temperament. The people of the United States, and especially those who live in the cities, have been extraordinarily tolerant of waste in all its forms. They are wasteful of food, water, light —even wasteful of their own leisure hours. The conservation campaigns which were carried on during the World War demonstrated all this in vivid fashion, and produced a spasm of thriftiness which unhappily has not had much permanent effect. Waste through the destruction of property by fire makes no more impression upon the American mind than does any other sort of waste. The impressive figures of destruction by fire, as published every year, seem to leave no more imprint upon the public consciousness than do the annual statistics of rainfall or temperature. Before the embers of a fire are cold a new building is started and the old one forgotten. The average American, moreover, is not averse to taking chances. If it is a question between a heating or lighting appliance which is known to be safe and one which though not so safe is much less expensive, he will usually choose the latter and give a hostage to good fortune. There are lines of human endeavor in which this readiness to take a chance is deserving of admiration, but fire-prevention is not one of them.

d. The Tendency to Lay Undue Emphasis on Fire-fighting Equipment.

It is characteristic of American life that people are inclined to depend upon remedial rather than preventive action. Most American cities have tacitly assumed, until very lately, that the best way to prevent fire losses is to maintain a well-organized fire department, an elaborate fire-alarm system, high pressure services, fire boats, and expensive motor apparatus. In keeping with this idea the fire-fighting forces of American cities have been brought to a very high pitch of efficiency. They reach incipient

fires with extraordinary promptness and have developed great proficiency in fire-fighting tactics. But neither their speed nor their tactics avail; the losses keep mounting year by year. The ounce of prevention would be much more effective in keeping these losses down.[1] If our total fire loss is to be substantially reduced it must be, in the main, by improved methods of prevention rather than by enlarged expenditures on fire-fighting apparatus and personnel.

The Causes of Fires.

From time to time elaborate enquiries have been made into the causes of fire, but most of them prove to be inconclusive because of the unreliability of the data. The fire departments of all larger cities try to keep records showing the cause of each fire, as nearly as can be ascertained without a regular investigation; but these records are not very enlightening. In a large number of cases the cause is set down as "unknown"; or "not positively known"; in many others the department merely puts down whatever cause the owner or tenant may happen to give. Hence the numerous fires which are recorded as having been due to "spontaneous combustion" or "defective wiring," when the real cause, in all probability, is gross carelessness on the part of the owner or tenant. Only on rare occasions (especially when a loss of life occurs) is there any investigation to determine whether such statements are anything more than mere guesses. Individual carelessness is unquestionably the most prolific of all causes and is responsible for many more fires than the official records disclose.

Carelessness as a Cause.

It is, indeed, the opinion of fire-prevention experts that more than half the fires that occur in American cities are the result of somebody's carelessness, negligence, or evil intent. Rubbish is left lying near the cellar furnace, matches are kept where children can get hold of them, gas brackets are set where they can be swung back against the parlor curtains, kerosene or gasoline is used in lighting the kitchen fire, chimneys are left uncleaned and unrepaired, pipes are placed too near the woodwork, bonfires and brush fires are started in proximity to buildings, fireplaces are left unscreened, ends of cigarettes go

[1] The Underwriters' Associations, which fix the insurance rates, have been in part responsible for this. They have been in the habit of rating the general fire hazards of cities largely on a basis of the fire-fighting facilities and have laid inadequate stress upon the *prevention* aspects of the situation.

Incendiarism.

into the waste basket—there is almost no end to the varied forms which individual carelessness may take. Actual incendiarism is also responsible for many fires, and it is more often due to cupidity than to malice. Over-insurance affords the chief inspiration to this form of wrong-doing. The insurance agents rarely go themselves or send anyone to look at the property which they are asked to insure. The greater the insurance, the larger the premium, and the larger the premium the greater the agent's commission. The agent has no financial interest in keeping the amount of a policy within bounds, quite the reverse. So an insurer may get as much insurance as he is willing to pay for; it may far exceed the value of the property insured. Insurance companies keep tab on values in the case of large business properties by sending inspectors to visit them, but small properties are usually insured without inspection. Little attention is paid to these until a fire occurs, and then the adjustment of the loss often takes the form of a controversy with an outcome that is satisfactory to no one. After property is burned is a poor time to appraise its value. Especially where property is heavily mortgaged, and where the owner is carrying it at a loss to himself, the temptation to sell out to an insurance company is greater than weaklings can always resist. If insurance agents were required to inspect and to place a valuation on all property which they insure, and to reappraise it at regular intervals, the number of incendiary fires would be very much reduced.[1]

The Three Forms of Fire-Hazard.

To sum up, then, there are three factors which contribute greatly to the occurrence and spread of fires in cities—three forms of fire-hazard, they are usually called. First, there is the *physical* hazard due to the design of buildings and to the material used in their construction. Some types of construction, the so-called three-decker tenement for example, create a greater fire-hazard than others. All buildings of combustible material, no matter what their design, are inherently hazardous. Second, there is the danger which arises from the use of buildings for purposes which increase the danger of fire, or which are likely to entail loss of life when fires break out. Factories, theatres, schools, and tenement houses are examples. This is called the

[1] There are good precedents for such a requirement. Banks, for example, are required to appraise property before they lend money on it and in most of the states there are strict legal rules relating to the methods of making such valuations.

*occupational* hazard. Finally, there is the risk arising from personal negligence, carelessness, or malice which is known as the *personal* or *moral* hazard. The danger of fire in any neighborhood or building depends upon one or another of these hazards. Occasionally the hazard in all three directions may be great, in which case the risk becomes extra-hazardous. The general problem of fire-prevention is to reduce them all.

Reducing the Physical Hazard.

The most common method of reducing the physical hazard, and the only effective one, is by fixing what are called fire-limits and providing by law or ordinance that no buildings save those of fire-resisting construction may be erected within such limits. Fire limits have existed in European cities for a long period; in America they are mainly the product of the last twenty or thirty years, and even yet some of the smaller communities have not established them. Where fire limits have been mapped out, they usually include the mercantile and industrial sections of the city, and may extend a good deal farther. In Philadelphia they comprise the entire city with the exception of three suburban wards; in Boston they have been gradually extended until they cover nearly three-fourths of the city. In the smaller cities, however, it is not customary to include within the fire limits those sections in which the dwellings are mostly detached from one another. Every community has its own ideas as to what ought to be included and consequently there is a great variation in practice.

Municipal Fire Limits.

What is Required Within the Fire Limits.

Within the fire limits, after they have been fixed, no wooden structures may be erected. It should be made clear, however, that the laws and ordinances which establish fire limits are not retroactive; they do not apply to buildings already in existence. It is only when new construction or extensive remodelling takes place that the limitations are applied. There is a popular, but altogether erroneous, impression that the building laws require construction within the fire limits to be of fireproof character. But strictly speaking there is no such thing as a "fireproof" building even though the term is almost universally used both by contractors and owners. There are degrees of heat which no type of building-material will resist. A great conflagration will sweep any sort of building out of its path. Such fires as those which devastated Baltimore and San Francisco afford ample proof that even steel beams will buckle and cement

crumble into a heap of ruins when a sufficient degree of heat is applied. Nevertheless it is entirely correct to say that certain types of construction are "fire-resisting"; in other words they will not burn under ordinary conditions.

Types of Construction:

Now the usual requirement is that within the fire limits, or within certain zones of these limits, all new buildings shall possess fire-resisting qualities in accordance with specifications laid down by the authorities. These specifications vary according to the location and character of the building; the building laws divide structures into three or more classes with different rules for each class. A factory or theatre, for example, is commonly

First Class.

required to be of first-class construction, that is to say it must be of fire-resisting materials throughout, no wood being permitted except for floor surfacing and certain trimmings. First-class construction is also required, as a rule, in the case of factories, public garages, and of all other buildings which exceed a certain height.

Second Class.

Second-class construction is commonly permitted, even within the fire limits, in the case of ordinary business structures which do not exceed a certain height and are not located in a zone of special danger. This type of construction permits the use of wood in floors and partitions, but not elsewhere. Most of the shops and stores in smaller cities, and even in larger cities with the exception of the principal business district, come in this

Third Class.

category. Third-class or frame construction is usually prohibited altogether within the fire limits but is permitted in the case of dwellings outside this area, provided such structures are not occupied by more than two (in some cases more than three) families. Even as regards private dwellings, however, there are regulations which to some extent restrict the methods of construction.

Special Rules Applying to Particular Types of Buildings.

In addition to general rules which apply to all buildings, there are special regulations applicable to such individual structures as factories, theatres, schools, department stores, tenement houses, and other buildings where the lives of many persons may be placed in jeopardy by the outbreak of a fire. It is not possible to give even a summary of these regulations here, for each type of building has its own set of rules, some of them very technical.

Theatres.

The rules applying to theatres may serve as a general illustration. They must be of first-class construction and must provide for certain additional safeguards. The exits must be adequate in

number, easy to use, and well lighted. In some cities their location must be indicated on the theatre program at every performance. An asbestos curtain must be installed and certain fire-fighting apparatus kept in readiness. Seats may not be placed in the aisles since this would bar the rapid emptying of the theatre in an emergency. Various precautions must be taken to reduce the danger of fire from the lighting appliances or from the cinema in the case of motion picture houses.

Tenement Houses.

As regards factories and tenements the regulations are being extended in strictness; but the process is spasmodic, and there is always a danger that in its spasms of zeal the fire-prevention movement may over-reach itself. After a disastrous fire, in which many lives have been lost, one often reads trenchant editorials to the effect that "all apartment houses should be made fireproof." Such a regulation would be easy to enact, no doubt, but it would greatly increase the cost of building tenements and would lead to a general rise in rents. One of the surest ways to create an acute housing shortage, indeed, would be to require first-class construction in the case of all apartment houses, whatever their size and wherever located. There is no immediate need of anything so drastic. Requirements of a milder character will eliminate a considerable part of the physical hazard in such buildings. It has been found, for example, that fires originate in cellars more commonly than in any other part of tenement structures, and that the spread of such fires can be prevented by insisting that there be no inflammable connection between the cellar and the rest of the building. The elimination of open stair-wells through which the flames can rise rapidly to the roof is also a means of lessening the number of serious conflagrations in apartment houses.

The Enforcement of Fire-prevention Rules.

Regulations are easier to make, however, than to enforce. To make the rules does not cost much in time or money; but to enforce them is a long-drawn-out and expensive task. It requires the careful scrutiny of all building plans and the employment of numerous inspectors to keep watch on construction while it is in process. Not least in point of difficulty is the problem of securing inspectors who are skilful and honest, and who will not connive at violations of the law. Most American cities have adopted an elaborate set of building rules but very few have adequate machinery for their enforcement. Sometimes the responsibility

for this enforcement is entrusted to the building department; sometimes it is turned over to the fire department. But in either case the inspectorial force assigned to the work is too small. Skilful and regular inspection cannot be ensured without a large appropriation in the municipal budget, and this has not usually been provided. Councillors and aldermen are not particularly interested in the strict enforcement of the fire-prevention regulations. There is no reason why they should be. Owners of property are not, neither are contractors. Tenants pay little attention to the matter. Nor is it easy to stir up a high degree of public resentment when builders are leniently dealt with by the fire-prevention authorities. On the contrary the strict enforcement of the rules tends to create an impression that building operations are being rendered more costly by the insistence on technical requirements. So evasions of the rules are frequent, and some of the regulations are more often disregarded than observed.

Fire-prevention Should be a State, Not a Municipal Function.

The work of fire-prevention is of sufficient importance to warrant its being entrusted to a separate bureau in the city or state government. A good deal may be said in favor of making fire-prevention a state function. When several municipalities, for example, are located close to one another it is very difficult for one of them to make and enforce a strict code of building regulations without the co-operation of the others. The city which maintains a high standard is at a disadvantage in rivalry with its neighbors which do not. Lenient regulations and lax inspection are among the allurements which draw land speculators and building contractors to a community. One city, let us suppose, decides to prohibit the erection of the so-called "three-deckers," or frame tenements housing three families, while other cities refrain from making this prohibition. Contractors and speculators will thereupon transfer their activities to the latter, where the regulations are lenient, and build their three-family structures there.

There is another consideration to be kept in mind and it is this: No city is safe from conflagration if serious fire hazards are permitted on any of its flanks, even outside its own borders. Fires do not pay any attention to municipal boundaries. Whatever endangers one city is a matter of concern to its immediate neighbors, especially in communities which crowd so closely

upon one another that it is difficult to tell where one begins and the other ends. So fire-prevention ought to be a state function. The rules ought to be state-wide, uniformly interpreted and impartially applied. There is no good reason, for example, why rules relating to fire prevention in factories should differ from city to city; an unprotected elevator shaft is surely as much of a fire-hazard in Cleveland as in Cincinnati. A tenement of third- or fourth-class construction does not become less dangerous because it stands in Buffalo rather than in Rochester. To prohibit such things in one city while permitting them in another leads only to resentment and confusion. Municipal self-determination, as applied to this field, merely means that the inter-municipal rivalry for industries and population will operate in the direction of lower standards. It is for these various reasons that several of the states have taken the work of fire-prevention into their own hands.

**Popular Education in Fire-prevention Methods.**

Entire dependence cannot be placed, however, on building-laws alone. Requirements as to the construction and use of buildings, even when rigidly enforced, will not eliminate those fires which are due to individual carelessness, and carelessness is the most prolific of all causes. Much can be done in this direction, however, by educating the people to greater caution, and much has been done during recent years. The best place for this propaganda is in the schools. Newspaper articles, circulars, and addresses on fire-prevention have their value; but in this as in most other things the best way to educate the adult is to begin with the child. In many American cities it is the practice to designate one day in the year as fire-prevention day with appropriate instruction in the schools concerning the methods of protecting life and property against fire.

**The Evolution of the Fire-fighting Department in Cities.**

But no matter how much progress the cities may make in the framing and enforcement of building laws, or in regulating the use of buildings, or in educating the people to greater carefulness, it is altogether likely that fires will continue now and then to break out and spread. Provision must accordingly be made for dealing with fires when they occur. There can be no general disarmament here. Great cities have been fighting fires for over two thousand years; but regularly-organized fire departments are a development of the last century. Volunteer fire brigades afforded the only protection in American cities until about the

time of the Civil War; then they were replaced in the larger communities by organizations of full-time firemen. The change was due in part to the increased number of fires and in part to the introduction of improved apparatus, notably the steam fire-engine, which required trained men to handle it. In all except the smallest cities the fire-departments are now on a professional basis.

Fire Department Organization in Europe and in America.

One notable difference between the fire-protection systems of Continental Europe and America is the absence of state-controlled fire departments in this country. In some of the largest Continental cities the brigades are wholly or partly under the direction of the national authorities. In Paris, for example, the fire department is organized as a regiment of pioneers (*sapeurs-pompiers*) and carried on the reserve strength of the French army. Other French cities have former officers of the army in command of their fire departments, and in the appointment of firemen they give preference to men who have had military or naval service. In London the national government does not control the fire department; it is within the jurisdiction of the County Council and is under the immediate direction of a chief whom the council appoints. The invariable American policy has been to treat fire protection as a municipal function, to be performed by the city authorities without interference from above. There are today no examples of state control of municipal fire departments in the United States.

The Head of the Department.

Thoroughout the larger cities of the world, with very few exceptions, the fire department is headed by a chief or commissioner. The exceptions are a few American cities in which the board system of control still continues. In these cities the fire chief is not the head of the department but merely the board's agent. The fire commissioner or fire marshal in most of the other large American cities (including New York, Chicago, and Boston) is appointed by the mayor. A few large cities, including Philadelphia and Cleveland, have combined their police and fire departments into a department of public safety with an appointive commissioner at its head. In cities which have adopted the commission form of government one of the five commissioners invariably becomes head of the police and fire departments together; under the city manager plan a separate chief is commonly appointed for each department.

The Rank and File of the Department.

New York City has the largest fire-fighting force of any city in the world, numbering about 5000 men of all ranks. The London force is not half so large. Chicago has a much larger fire department than Paris, and the same is true all the way down the line. The number of firemen per hundred thousand population is everywhere nearly twice as large in America as in Europe. The reason for this is to be found, of course, in the far greater amount of work which American fire departments are called upon to do. The difference in cost of maintenance is even more marked owing to the higher pay of the men in the American departments and to the more expensive apparatus used. It is not at all uncommon to find an American city spending for fire protection three times as much as an English, French, or German city of about the same size.

Internal Organization.

Fire departments are everywhere organized on a military model into platoons and companies, and in the larger cities into battalions. Every city is divided into fire districts or precincts, with a fire station in each. This plan of decentralizing the fire-fighting force is very old; it was followed in imperial Rome which had seven fire and police districts with a force of more than a thousand men assigned to each. The fire districts of a modern city differ in extent according to their location, being much smaller in the downtown than in the outlying areas. At each station there is a fire company of from ten to fifteen men, with a captain in charge and a lieutenant to assist him. The other members of the company are assigned to specialized duties as engineers, drivers, hosemen, or laddermen.[1]

Methods of Recruiting the Force.

In European cities the recruiting of firemen is largely from among men who have served in the army, the navy, or the merchant marine. As a rule there are no formal tests for appointment. The selection is made on a basis of each man's record and recommendations. In most of the larger cities of the United States, on the other hand, the fire-department has now been placed under civil service rules and the selection is made by competitive examinations. Since the close of the World War, it is true, the rules have been amended in many of the states to provide that former service-men shall have preference. This preference in some cases is absolute, that is, if a former serviceman passes the tests he must be placed on the list above those

[1] In some cities there are separate ladder companies.

who are not veterans, no matter how high the latter may have ranked in the examination; in other cases it is a relative preference only, that is, the veteran gets a bonus of say five or ten per cent which may or may not be enough to place him at the top of the list. At any rate the preference works havoc with the civil service competitions and is commonly regarded as excluding from any real chance of appointment all but those who obtain the benefit of it.

The Training of Firemen.

Until about fifteen years ago it was the custom to place firemen on active duty, immediately after appointment, without special training of any sort. Of late, however, schools of preliminary instruction have been established in most of the larger cities. New York was the pioneer in this field and is still in the lead. Its course of training covers an initial period of thirty days. The recruits are instructed in the fire-prevention regulations, in the proper handling and care of fire-fighting appliances, and in the use of pulmotors for the resuscitation of persons overcome by smoke. They are also given practice in wall-scaling and rescue work. Many of the fire stations have repair shops attached to them and in these shops the men are taught the elements of motor mechanics. The profitable use of the men's spare time is a problem which the heads of fire departments have not yet satisfactorily solved. Five parts idleness, three parts drudgery, and two parts heroism—that is about the distribution of the firemen's time. It is a rare city in which the firemen do not spend half their duty hours with no duties to do. The possibility of using these hours for education and technical training would seem to be worth consideration.

Promotions and Discipline.

Promotions to posts of active command in the fire departments are invariably made from the ranks. In some cities there are civil service tests for promotion; in others the promotions go by seniority or are determined by the recommendations of the higher officers. Discipline is usually in the hands of the chief or other active head of the force, but it is now becoming the general practice to have all serious breaches of discipline dealt with by a board of three officers chosen from the personnel of the department. The recommendations of this board are then submitted to the chief or commissioner for his approval. Penalties take the form of fines, extra duty, suspension, or even dismissal. Where the civil service rules have been extended to

the fire department it is not usually possible to dismiss any member of the force except on definite charges and after a formal hearing.[1]

The Two-platoon System.

Until a few years ago it was the practice to require that members of the fire department should do practically continuous duty for so many days at a time. They were allowed one day off in five or, in some cases, one day off in three. But this system precludes any reasonable amount of home life on the part of the men and for that reason the firemen have been agitating the establishment of the two-platoon system which permits every member of the force to be off duty for a certain number of hours in each day. In many cities this agitation has been successful and the two platoon system is now in operation. While it has obvious merits from the firemen's point of view, in that he gets from eight to twelve hours off duty in every twenty-four, the two-platoon system involves a large increase in the size of the force with correspondingly greater cost to the taxpayer.

Fire-fighting Apparatus.

The apparatus available for use in fire-fighting has undergone remarkable improvement during the past quarter of a century. The steam pumping engine, which replaced the hand pumps of an earlier generation, is now being itself supplanted by the internal combustion engine. Horse-drawn apparatus is rapidly disappearing; within a few years we shall probably see the last of it. Motorized apparatus is expensive to install but it is cheaper to maintain, and more expeditious in reaching fires. The elimination of horses from the fire stations has made these buildings much less offensive to the neighborhoods in which they are located. Progress has also been made in the development of chemical engines which are now used in putting out smaller fires, and in such appliances as scaling ladders, water towers, ladder trucks, pulmotors, and gas masks.[2] Smoke helmets and gas masks now permit the firemen to penetrate buildings and to attack fires under conditions which would have rendered this work impossible a generation ago.

Relation of the Water Supply to Fire Protection.

It is a popular impression that a very large amount of water

[1] Most of the larger cities have established pension systems in their fire departments. Men usually become eligible for pensions after thirty years service or on reaching the age of sixty.

[2] In chemical engines the usual compound is bicarbonate of soda and water into which a small amount of sulphuric acid has been injected. The mixture generates carbonic acid gas which provides the pressure.

is used in putting out fires and that for this reason the water reservoirs must be provided with extra capacity. It is true, of course, that the fire department depends absolutely upon the public water supply and that it is left helpless if the supply gives out. But even a serious fire does not make a very heavy demand upon the reservoirs, as a little mental arithmetic will demonstrate. The standard engine of today develops a pressure of one hundred pounds to the square inch or thereabouts and pumps at the rate of about a thousand gallons per minute. On this basis it would take seventeen engines to pump a million gallons in an hour's time. Yet the normal consumption of water in a city of 200,000 population is larger than that during every hour of the day. It is doubtful whether the amount of water used by the fire department ever reaches, during any year, as much as two per cent of the total consumption.

High Pressure Systems.

One of the notable developments in fire-fighting apparatus during the past twenty years is the high-pressure system. These facilities do not exist in European cities where tall structures are rare, but they are essential in the larger American communities where the erection of very high buildings has rendered ordinary pressures inadequate. A fire engine working at maximum pressure can deliver an effective stream of not more than one hundred feet in height, whereas the upper stories of the modern skyscraper are far above that level. Some of the largest American cities have therefore installed in their downtown districts a special system of mains and hydrants strong enough to carry water under heavy pressures. The water, at the pressure of three hundred pounds to the square inch or more, is supplied by electrically driven pumps located outside the zone of possible conflagration and preferably with direct access to a lake or river. The streams can be played from the ground by using tripods or water towers; but in erecting tall buildings it is now the practice to instal a standpipe which connects with the high pressure service at the street level and runs upward to the topmost floor. This standpipe is provided with hose connections on each story. The amount of water which a high pressure service can deliver in a very short time is almost incredible to any one who has not seen the system in operation. "We simply turn on a stream," said a fire chief recently, "and in a few minutes the furniture goes floating out of the windows."

Private Fire Protection.

The fire prevention rules in most of the cities now make it essential that all large buildings in the business district shall be equipped with automatic sprinklers. An automatic sprinkler system involves the running of a network of pipes along the ceiling with sprinkler-heads at intervals of every few feet. These heads are sealed with a fusible substance which melts at a temperature of say one hundred and fifty degrees Fahrenheit. When a fire breaks out in any part of a building the temperature in the immediate vicinity rises quickly and the nearest sprinkler head is released, thus permitting the water to deluge the adjacent area. Modern sprinkler systems are so equipped that the flow of water through one or more heads will sound an electric alarm either at the nearest fire station or in the watchman's quarters. Factories, hotels, department stores and other large establishments do not altogether depend upon the vigilance of the fire department or the security afforded by a modern system of automatic sprinklers. Most of them maintain a regular patrol by watchmen whose efficiency is checked up by a clock mechanism. Such buildings are better protected than most private dwellings, and they need to be, for the hazard is much greater.

The Cost of Fire Protection.

The cost of fire protection in American cities is large but not surprisingly so when one considers the expensiveness of the appliances and the size of the fire-fighting forces. It differs from city to city, with an average of about $2.50 per capita for them all. In New York City the fire department costs about fifteen million dollars a year; in Chicago about six millions, and in Boston about three millions. The fact that the per capita cost runs higher in some cities than in others is attributable to differences in local conditions. Some cities by reason of their narrow streets, high buildings, concentration of industries and large percentage of inflammable structures are more difficult to protect than others. It goes without saying, however, that the per capita cost can be reduced, and ought to be, by greater attention to fire prevention. More than a quarter of a billion dollars per annum in fire losses plus the present high cost of public and private fire protection is far too heavy a burden to be borne complacently.[1] Is it not a fact worth thinking about that whereas we have cut down the death rate by a substantial margin

[1] The chief engineer of the National Board of Fire Underwriters, Mr. George W. Booth, has kindly supplied me with an estimate of what fire

during the last thirty years the ratio of fire losses has not been diminished during this period? The public health authorities have been bending their main efforts to the prevention rather than to the cure of disease. Is it not high time that public sentiment should approach the fire-loss problem from the same angle?

## REFERENCES

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The National Fire Protection Association has issued a series of *Suggested Municipal Ordinances for Regulating Fire Hazards* and a series of *Standard Regulations for Fire Protection and the Safeguarding of Hazards.* The same organization has also prepared many other useful publications including pamphlets on *Fire Protection for Schools, Fire Protection for Hospitals, Asylums and Similar Institutions, Debarment of City Conflagrations,* and *Individual Liability Laws for Fires Due to Carelessness or Neglect.* Mention should likewise be made of the Association's *Annual Proceedings,* its *Year Book,* its *Quarterly,* and its *Monthly News Letter,* all of which contain a great deal of valuable data. An index to all these publications is available (Boston, 1923).

The National Board of Fire Underwriters has issued, among other items, a *Model Building Code* (New York, 1920), a *Standard Schedule for Grading Cities—with Reference to Their Fire Defences and Physical Conditions* (New York, 1916). It also circulates a monthly publication, *Safeguarding America Against Fire,* which contains interesting statistics on fire losses.

On fire-brigades and fire-fighting apparatus there is a good deal in E. F. Croker's *Fire Prevention* (New York, 1912), and in Luke Flanagan's *Science of Fire Fighting* (New York, 1920). The United States Bureau of the Census published in 1918 a special report on *Statistics of Fire*

protection really costs the people of the United States at the present time. This estimate of more than $155,000,000 annually, is made up as follows:

| | |
|---|---|
| Total annual expense of water works properly chargeable to fire service | $43,284,352 |
| Total annual expense of fire departments | 85,556,478 |
| Total annual cost of private fire protection | 27,000,000 |
| | $155,840,830 |

*Departments in Cities Having a Population of Over 30,000.* A little book giving some useful figures relating to the strength of municipal fire departments in the United States is issued each year by the Dauntless Club of the Buffalo (N. Y.) Fire Department.

Much up-to-date information is printed in the *Proceedings* of the Annual Convention of the International Association of Fire Engineers, in *Fire Protection* (monthly), *Safety Engineering* (monthly), *Fire and Water Engineering* (weekly), and the *Firemen's Herald* (weekly). From time to time *Public Works* devotes a special issue to fire departments. The *Annual Cumulation* of the Public Affairs Information Service is rich in references to material on fire prevention and fire protection.

# CHAPTER XXXV

## PUBLIC HEALTH AND HYGIENE

**A Highly Important Matter.**

Among the varied activities of the modern city few are more intimately related to the daily life of the people than those of the health department. To safeguard the public health in any large community is a task of the first magnitude. But it is an indispensable public undertaking, for health is the greatest single factor in personal efficiency. It is something, moreover, that cannot be left to individual preference or discretion, because ignorance or carelessness in any individual instance may entail danger to the whole community. A man's religious and political beliefs may be his own affairs; but his ideas of cleanliness and disease prevention are not.

**Scientific Health Work is a Modern Development.**

Scientific public-health work is the product of the last hundred years, and in large part a development of the last fifty years. Health protection did not, and could not, rest upon any scientific basis until the germ theory of diseases had been worked out and accepted.[1] This theory completely reconstructed the world's conceptions of infectious disease and its causes. It provided an intelligible and complete explanation for many things which had been looked upon during many centuries as hidden mysteries. The wonder is that the world spent so long in unearthing this great contribution to human knowledge. Two thousand years ago a relation between decomposing organic matter and pestilence was suspected, but the process of decomposition was not understood nor did it become so until the nineteenth century.[2]

[1] For a brief statement of this theory see C. V. Chapin, *The Sources and Modes of Infection* (New York, 1912), pp. 1-12.

[2] The germ theory of disease is usually associated with the name of Louis Pasteur, and rightly so, for although he was not the first to propound the theory he was the first to demonstrate fully the direct relation between bacilli and human diseases. This he did in 1877. During more than two centuries preceding Pasteur's work, however, various investigators had been gradually edging closer to the truth. In 1659 Athanasius Kircher, who was the first investigator to make use of the microscope in the study of illness, reported the presence of minute creatures in decomposing food, and in his

The Romans had a conviction that some relation existed between marsh land and malaria, and between night air and malaria, but for more than eighteen hundred years no one managed to hit upon the *anopheles* as the liaison officer between the two.[1] During the Middle Ages, and well into modern times, plagues and epidemics swept over Europe unchecked. They were commonly looked upon as manifestations of Divine anger, which proves that the mediæval world had made no appreciable progress in diagnosing the true cause of disease since the days of Homer "when the sun god in anger raised his terrible bow" and with every twang of the bowstring sent valiant men to their death by pestilence. The superstition which attributes disease to supernatural intervention has been hard to kill; even yet it has not been exterminated in civilized communities. Nor is this surprising, for there are people still living in American communities who can remember the days when typhoid was popularly attributed to bad ventilation, diphtheria to sewer gas, yellow fever to contaminated water, smallpox to the presence of manure piles, and tuberculosis to heredity. Long after the germ theory of disease was generally accepted, indeed, the surroundings of man received far more scrutiny than his habits. Sanitation, in other words, was deemed more important than hygiene.

The Old Public Health Measures and the New.

In no branch of municipal administration has there been so complete a revolution, within the past thirty or forty years, as in public health work. The essence of the change may be stated in this way: public health work a generation ago was chiefly concerned with the environment in which the people lived; today it is more particularly concerned with the people themselves. In the old days it was customary to regard as inimical to the

*De Pestilentia in Universum* (Venice, 1659) suggested that these might be the cause of disease. Not long thereafter Antony van Leuwenhoek saw and described the organisms which we now know to have been bacteria. But later investigators went off the right track and the true theory of disease had to wait until laboratory verification at the hands of Delafond, Koch, and Pasteur gave it a firm footing after the middle of the nineteenth century. The student who desires a concise and non-technical review of this development will find it in the chapter on "The History of Bacteriology and its Contribution to Public Health Work" by Frederic P. Gorham which is published in the Jubilee Historical Volume of the American Public Health Association, entitled *A Half-Century of Public Health* (New York, 1921).

[1] The discovery was made by Dr. Ronald Ross in 1897. The Nobel Prize was awarded to him five years later.

public health everything that was offensive to sight or smell,—damp cellars, stagnant water, smoke, garbage, dead animals, and rubbish piles. All were lumped together as "causes of disease" without distinction, and without any clear ideas as to how they might transmit infection. The sanitary inspector of a generation ago went about condemning everything that looked or smelled badly, but paying little or no heed to the routes of direct infection between individuals. Today the emphasis has been shifted, and rightly so, to the quarantining of diseased persons, the inspection of food and milk, the protection of water supplies, and the extermination of insect disease-carriers.

Another radical change in point of view has also been affected during the past thirty years. The old public health administration was almost exclusively concerned with the prevention of disease by discovering and eliminating their ostensible causes; the new public health has taken upon itself the additional task of promoting physical vigor among the people so that the race may develop greater powers of disease-resistance.[1] To this end there have been developed various methods of promoting immunity from disease by vaccination and innoculation.[2]

The Relation of Bacteria to Disease.

To understand the relative importance of human environment and of human habits in the transmission of disease it is necessary to add a further word about the germ theory. The germ theory of disease may be stated, in its main outlines, as follows: Innumerable small organisms (known synonymously as microbes, bacteria, bacilli, or germs) exist in the air, and in or upon nearly all substances. These organisms are so minute that they are invisible to the eye unless a powerful microscope is used. They are so small, indeed, that they can assemble by thousands on the head of a pin or in a single drop of water. Most of them are harmless; and some of them render useful service. Without their aid, for example, we could not make cheese or vinegar. On the other hand, nearly all organic decay, of whatever sort, is caused by the action of bacteria. When apples rot, or milk becomes sour, or butter turns rancid, it is all due to bacterial action. Bacteria multiply with extraordinary rapidity wherever the temperature and other conditions of bacterial growth are favorable; most species increase by division, that is, one micro-

[1] H. H. Hill, *The New Public Health* (New York, 1916).

[2] See *below*, p. 267.

organism divides itself into two, these two into four, and so on by geometrical progression. As successive divisions often take place within a few hours it is easy to see how a very few bacilli today may number millions tomorrow. Under the microscope most of the different species can be identified, for they assume varying shapes and display a variety of characteristics. Hence we have cocci, spirilla, and so on.

**The Action of Pathogenic Bacilli.**

But although most of these diminutive organisms are harmless, many species are what scientists call *pathogenic;* in other words, they are a menace to health when they gain access to the human body. The human body, in fact, is the most favorable environment for pathogenic or disease-bearing bacilli, and most of them can live but a short time outside of it. Access to the human body may of course be gained in various ways, but principally through direct or indirect personal contact, as well as through the food and drink we consume, or through the bites of germ-carrying insects. The bacteria, when they gain lodgment, often multiply with great rapidity, permeate the blood, create a poisonous substance in it, and thus increase the temperature of the body—a condition which we speak of as fever. When the individual is strong and vigorous he can sometimes overcome and throw off the effects of this bacterial action, for the human blood under normal conditions possesses great powers of resistance; but when a person is frail or exhausted, this resisting-power is greatly diminished and the bacilli may gain the upper hand. In other words the resistance of the individual, pitted against the virulence of the infection, decides whether or not a disease develops.

**The Routes of Infection.**

Now when the bacilli leave the body of a diseased person it is chiefly by way of the natural discharges of the nose, throat, bladder, or intestines; and if a route of transmission is available they inevitably become the cause of new infections. The route of infection may be by direct personal contact, or by food and drink, or by insects, or by some other channel.

**Routes of Infection Are More Important Than Environment.**

The public health authorities are no longer much concerned, accordingly, with garbage piles, damp cellars, and stagnant marshes except in so far as these things may facilitate the multiplication of rats, vermin, flies, and mosquitoes, or may diminish the disease-resisting powers of the people. What they look for, more particularly, is the route of transmission, the

channel through which disease is being carried from one individual to another. The orthodox medical opinion of a generation ago was that environment was largely responsible for the propagation of infectious diseases; today it is the belief of public health experts that environment has little direct bearing on the incidence of specific infections, most of which will develop in any environment if the routes of transmission are open. On the other hand, it is now well established that typhoid, yellow fever, smallpox, typhus, bubonic, and many lesser diseases will not develop in any environment, however bad, if the routes of transmission are closed. No matter how unsanitary the surroundings may be, for example, or how squalid the life of the people, there can be no epidemic of yellow fever unless a certain type of mosquito (*Stegomyia calopsus*) is at hand to carry the bacilli of this disease from one infected person to another. The prerequisites of an epidemic are an infected person and an open route of transmission to others.

**Most of These Routes Are Direct.**

Contrary to the prevailing impression among laymen, pathogenic bacilli do not live and multiply for any considerable length of time outside the human body. They do not ordinarily thrive for weeks on door knobs, bank notes, and street-car straps to be picked up by the unwary. They do not for months and years haunt the houses in which diseased persons have died. Even in a relatively favorable artificial environment, such as milk or water, they disappear in a short time. Most infection, therefore, is derived from diseased persons directly, or from things recently contaminated by them. One of the chief problems of the public health authorities, therefore, is to discover and close these direct channels of disease transmission by the use of methods adapted to each particular form.

**Water-borne Diseases.**

The way in which noxious bacilli gain access to the human body and produce disease may be illustrated by the case of typhoid fever. Typhoid is caused by a germ (*B. typhosus*) which is most commonly found in polluted water, but it sometimes makes its way into milk through the use of polluted water in washing cans or utensils. The typhoid bacilli, being taken into the stomach with water, milk, or any other contaminated nourishment, find their way into the intestines where they multiply and cause inflammation. If sewage from hospitals or homes where there are typhoid patients is not carefully guarded, it

gets into lakes, rivers, or wells, polluting them and spreading the disease. The fountain head of infection is the patient. The elimination of typhoid is, therefore, very largely a problem of protecting the water supply against contact with human sewage. In other words, it is largely a matter of using intelligence and spending money. Exemption from typhoid epidemics can be purchased by any city that is willing to pay the price. An epidemic of typhoid means that, either from ignorance or parsimony, the municipality has permitted its sanitary arrangements to become short-circuited.

Insect-borne Diseases.

Another way in which disease-bearing bacilli obtain access to the human blood is through the bites of insects. Fifty years ago yellow fever was the great scourge of tropical countries. When the French built a railway across the Isthmus of Panama in 1885 it is said that the work cost one life for every tie in the road, so great were the ravages of yellow fever among the laborers. But the United States, twenty years later, succeeded in digging a canal across the Isthmus without the loss of a single life from this disease. Under Spanish rule, Cuba was never free from yellow fever; the island has been practically immune since the Americans cleaned it up. Men who are still not beyond middle life can remember when yellow fever raged periodically in New Orleans and other American cities. The epidemic was uncanny in its spread. It would go down one side of a wide avenue and not touch the other side. Then, with a shift in the wind it would cross over. A sudden fall in temperature, a cold spell, would bring a drastic fall in the number of cases reported; and a warming-up in the weather would bring a recrudescence of the epidemic. But all the mysteries of yellow fever were cleared up by the simple discovery that the germs of infection are carried by a certain species of mosquito. With this fact known, the days of yellow fever epidemics in American cities were at an end. The cleaning-up of places in which the mosquitoes breed, the destruction of the infected insects, and the careful screening of doors and windows, have eliminated the disease. Today, in progressive communities, it is as rare as leprosy or smallpox. Malaria, which is transmitted by a different species of mosquito, is also being gradually eradicated. Its complete disappearance is only a matter of time. And there are other insect-borne diseases. Typhus, a fever which has long been the pestilence of backward

countries, is transmitted from person to person by the common body-louse or "cootie." Cities, armies, and even whole countries have been set free from this plague by delousing operations, that is, by the wholesale disinfestion of clothing and persons. Bubonic plague, the Black Death of the Middle Ages, which has swept over Asia and portions of Europe so many times, is transmitted by rat fleas. Other diseases besides yellow fever, typhus and bubonic are known to be spread by insects, and still others are believed to be. The common house-fly is undoubtedly a carrier of typhoid germs from privies and sewage to the water, milk, and food supplies in homes and stores. Flies undoubtedly have something to do with the spread of some other diseases as well, and their suppression deserves more attention than cities are now bestowing upon it. This suppression is merely a matter of cleaning up their breeding places, especially piles of filth and garbage, any one of which will supply enough flies to infest an entire neighborhood. The world would be far better off if the whole category of disease-carrying insects, mosquitoes, lice, fleas, and flies could be made as extinct as the dodo.

**The Transmission of Disease by Personal Contact.**

Not all infectious diseases are spread, of course, by polluted food and drink or by insects. Many are known to be spread through discharges from the mouth or nose of a diseased person. It is now pretty generally believed, on the part of those best qualified to vouchsafe an opinion, that human sputum is the main source of tuberculosis.[1] And tuberculosis is the most frequent and widespread of all the major infections. It is estimated that more than 150,000 persons die of it in the United States every year. The provision of sanatoria for the treatment of this disease and the proper care of patients in such institutions are civic problems of the first magnitude. Diphtheria, measles, scarlet fever, and other ailments are known to be spread through the medium of mouth and nasal discharges; still other diseases (including influenza) are believed to be. The direct or almost direct contact of individuals through the common use of eating utensils, drinking cups, or towels is undoubtedly a prolific channel of infection. In the case of some infections we know the customary route which the infection takes but have not yet identified

[1] M. J. Rosenau, *Preventive Medicine and Hygiene* (New York, 1917), p. 141. Dr. Rosenau adds, however (p. 50), that tuberculosis is also spread from cattle to man through infected milk.

the specific bacillus. On the other hand, some diseases are known to be caused by bacilli which have been isolated and identified, but the modes of transmission are not yet known with certainty. There are various theories as to how some infections are periodically carried from one end of the world to the other, but none of them affords a satisfactory explanation of the extraordinary phenomenon. It is not improbable that "carriers," in other words persons who transmit the germs of a disease without being themselves ill at the time of transmission, are responsible for some of the mystery.

**The Methods of Public Health Protection:**

**1. Quarantine.**

First among the measures taken by the public authorities to prevent the spread of communicable diseases are the quarantine regulations which are enforced at all seaports under the authority of the national government. Day and night throughout the year the health officers stand guard at these ports to see that no disease-bearing persons are permitted to land. Vessels leaving foreign harbors for the United States must secure a bill-of-health from the American consul before they sail; and the first person who goes on board an incoming vessel after the pilot is the quarantine officer. This official permits no passenger to be landed until he has made sure that there are no persons afflicted with quarantinable diseases aboard. If there are any such cases, the passengers are held until the danger is past.[1] The various states and cities also maintain systems of health-inspection and quarantine.[2] Certain diseases (including tuberculosis, smallpox, typhoid, scarlet fever, pneumonia, whooping cough, diphtheria, measles and mumps) must be promptly reported to the state or municipal authorities. The health regulations usually require that in case of the more-readily-communicable diseases the house be placarded, and in extreme cases the patients may be removed to an

[1] All the maritime quarantines in the United States are now directly controlled by the national government. This maritime quarantine seeks only to keep out exotic pestilence, that is, serious epidemic diseases which either do not prevail at all in the United States or are very rare here. There are, in fact, only six quarantinable diseases at ports of entry: smallpox, cholera, yellow fever, typhus, leprosy, and plague. A full account of the national government's work, which is administered by the United States Public Health Service, may be found in the monograph issued by the Institute for Government Research (Washington, 1921).

[2] To the lay mind the term "quarantine" usually suggests detention only, but to the health expert it means not only detention but segregation, disinfection, and the application of other measures based upon definite epidemiologic data.

isolation hospital. This isolation of cases and carriers is of very great importance.

2. Disinfection.

After the illness has terminated, the regulations usually provide that the premises shall be disinfected under the supervision of an official from the health department. Every city and town, whether in Europe or America, now maintains general regulations relating to quarantine and disinfection, these being enforced by the local health authorities under central supervision. For the most part the enforcement of these regulations is left to the health boards or health officers of the various communities, although, in the case of epidemics involving several municipalities, the national or state health authorities may assume direct control. Epidemics, like conflagrations, pay no heed to municipal boundaries; and it sometimes happens that when a city by stringent measures is enabled to rid itself of a communicable disease it presently becomes reinfected by reason of official negligence in some other city near by. For this reason a complete degree of municipal home rule in public health matters is neither practicable nor desirable.

3. The Abatement of Nuisances.

The local health authorities also have to do with the abatement of nuisances. Nuisance is a comprehensive term including whatever is a menace to the life, health, morals, or convenience of the people. Whether a thing is or is not a nuisance is a question of fact, to be determined by the conditions in each individual case and not by general rule. Most of the complaints which reach the local health authorities are related to some nuisance, real or alleged. Yet the majority of nuisances are not really a menace to the public health but are merely offensive to the public taste—unclean alleyways, piles of rubbish in back yards, vacant lots grown up with weeds, and so on. The health authorities are overburdened with work which does not properly belong to them, a condition of affairs which harks back to the days when everything that looked offensive was deemed to be a cause of disease.[1]

4. The Compilation of Vital Statistics.

In order that measures for preventing the spread of disease may be effective, they must be based upon a well-organized and accurate system of vital statistics.[2] These statistics include figures relating to births, deaths, and illness. They are compiled

[1] The phrase "a source of filth or cause of disease" still appears in many public health statutes and regulations as though the two terms were synonymous.

[2] The most useful book on this subject is George C. Whipple, *Vital Statistics* (2d edition, New York, 1923).

in the offices of the health authorities from the reports sent in by physicians or by heads of households. These reports, to be of real value, must not only be accurate but prompt. The standard notification blank now used in the larger cities is so framed as to elicit all essential information. By means of these statistics the health authorities can sense the beginnings of an epidemic, can often determine the source or cause, and can immediately set the machinery in motion to ensure its control. When one physician reports a case of typhoid this may not be of great significance; but if a dozen cases are reported on the same day, the necessity of an immediate investigation into the water and milk supplies becomes apparent. Not only this but the individual physician finds it easier to make his diagnosis when he can call upon the public health authorities for accurate statistical information.

5. The Development of Individual Immunity.

It has been mentioned that the disease-resisting power of the individual is an important factor in stemming the spread of disease. Indeed it may truly be said that immunity or resisting-power is the overshadowing factor in the promotion of personal hygiene. The ability of the individual to resist disease may be acquired in various ways—by the development of a general physical vigor, by successfully conquering an infection, or by the artificial introduction of a serum, virus, vaccine, or suitable toxin into the human body. In the case of some diseases a single attack leaves the individual with a specific immunity against a recurrence of that particular disease, an immunity which varies, however, in degree and duration. Other diseases seem to predispose individuals to recurrent attacks. Varying degrees of specific immunity may also be procured, in the case of some diseases, by artificial vaccination or inoculation. It is also believed that a degree of specific immunity to certain diseases develops in all persons as they grow older. The positive work of the public health authorities is now very much concerned with the development of both the general and specific disease-resisting powers of the people.

By Vaccination and Inoculation.

The practice of vaccinating healthy persons as a safeguard against disease has been used for more than a century. Prophylactic inoculations are also used nowadays to prevent or to mitigate diphtheria, typhoid, and rabies. The technique of inoculation differs, of course, in each case. All members of the Amer-

ican Expeditionary Forces during the World War were given anti-typhoid inoculations which consisted of injecting subcutaneously a quantity of dead and greatly-attenuated typhoid bacilli. These bacilli were not capable of producing the disease but they were enough to set the resisting-powers of the blood in motion and thus to ensure a certain degree of immunity from typhoid infection by the ordinary process.[1] How long this immunity continues we do not yet know.

The Argument for Compulsory Vaccination.

Vaccination against smallpox is the process of transferring virus from the skin eruption of an animal having cowpox to the skin of a human being. The process was discovered by Jenner in 1796, and was the first specific prophylactic measure devised by man. Its efficiency was soon accepted and during the past hundred years it has been widely used. Vaccination of all school children is compulsory in several of the American states and in many communities, although there is a good deal of objection to it among certain sections of the people. If smallpox were completely wiped off the face of the earth, there would be no need for universal vaccination; but so long as numerous cases exist, as they still do in many countries, compulsory vaccination is a justifiable measure of public safety.[2] The reputed dangers of vaccination have been greatly magnified by its opponents.

6. Improving the Hygiene of Factories and Workshops.

Because of the unsanitary conditions which have been found to exist in workshops and factories, particularly in the large cities, various states have made laws and regulations to protect the health of employees in such establishments. Industrial hygiene, as it is called, has become one of the most important branches of preventive medicine since it deals with the health of those who form a vast majority of the population. In the different forms of industry there are various "occupational" diseases, many of them due to the inhalation of gases, vapors, or dust. Some of

[1] As an indication of what can be accomplished in the way of eliminating typhoid by protecting the water supply and enforcing general inoculation the following example may serve: In 1898, during the Spanish War, a division of about 12,000 volunteer troops was encamped at Jacksonville, Florida. During its encampment there were 2963 cases of typhoid of which 248 resulted in deaths. Twenty years later, in 1918, another division of troops was encamped at Jacksonville (Camp Johnston). Although this division numbered more than twice as many men no cases of typhoid developed at the camp.

[2] The United States Supreme Court has held that a law compelling vaccination is within the police power of the state. Jacobson *v.* Massachusetts (197 *U.S.* 11), April, 1905.

these trades, by reason of their danger to the health of the workers, have been subjected to strict regulation. Others, such as the making of poisonous phosphorus matches, are so gravely dangerous to the health of the workers that they have been prohibited by specific use of the government's taxing power. The "sweat-shops" or tenement rooms in which women and children formerly worked long hours for a mere pittance, crowded together with almost no ventilation—these industrial dungeons have been legislated out of existence almost everywhere. Workshops and factories must now be commodious, well-lighted, clean, and properly ventilated. Adequate sanitary equipment must be provided. It is the duty of the state factory inspectors to see that all these requirements are fulfilled. It should be remembered, however, that industrial hygiene is a field in which the medical, economic, and legal aspects are closely interwoven. The preservation of health among the workers is not merely a question of an improved industrial environment but of wages, hours, and conditions of labor.

7. Popular Education in Health Matters.

The basis of successful public health work is the education of the people in hygiene and sanitation. If the people can be brought to realize the transcendant importance of the work, their cooperation will be given cheerfully. Where the health regulations are now disobeyed it is largely because their value to the individual, as well as to the community, has not been made clear. An effective method of educating the public is by means of health exhibits which demonstrate, with the aid of pictures, especially motion pictures, the value of proper hygienic conditions in the workshop and the home. But the ultimate education of the whole people in this field, as in all others, must be primarily the work of the schools. It is easier to teach hygiene and sanitation to children than to grown-ups. Adults have acquired habits of life and attitudes of mind which are hard to alter. Hence the education of children in all that relates to clean living, wholesome food, modern sanitation, and the avoidance of disease should be part of the regular work in schools throughout the country. Upon this will depend, in no small degree, the future physical well-being of the nation.

8. Medical Inspection of School Children.

In this connection the frequent medical inspection of children in the schools is a public health activity of great importance. By this means communicable diseases are detected in their early

stages, while non-transmissible ailments or defects, which ordinarily would pass unnoticed, are discovered before they become serious. Correctable defects are responsible to some extent for inattention in the classroom, lack of interest in work, truancy, and retarded intellectual development. The majority of those who have to "repeat a grade" in the public schools owe their trouble to adenoids, defective eyesight and other physical defects.[1] It is more economical to provide medical inspection and even to provide for the correction of these ailments than to pay for the extra year's schooling. The medical inspection of school children should be under the jurisdiction of the health department, not that of the school board, although there are some who disagree with this proposition and argue that the work is too closely related to the schools to warrant its being given to any outside authority. There is always a danger of friction, moreover, when any outside department is given functions which bring it into the school buildings.[2] A very strong reason for not giving the responsibility to the school board, however, may be found in the fact that many schools (parochial schools and private schools) are not under the jurisdiction of the school board yet cannot be left out of account in any comprehensive plan for the safeguarding of the public health.

9. Milk Inspection.

Among all the foods of humanity, milk is probably the most important. It is the chief nutrition of children until they reach school age, and sometimes even longer. It forms a large factor in the diet of invalids. Even in the daily fare of robust adults, it is an item of no small importance. Rosenau believes that milk "is responsible for more sickness and deaths than perhaps all other foods combined." [3] This is because no article of everyday commerce is so easily contaminated, and in the case of no other article are the results of pollution likely to be so serious. For when the germs of disease get into milk, they multiply with great rapidity and go directly into the diet of those who have the least power to withstand infection, the children and invalids of the community.

Milk, moreover, is of all foods the most readily subject to

[1] See the figures given in L. H. Gulick and L. P. Ayres, *Medical Inspection of Schools* (New York, 1913), especially pp. 153-155.

[2] For further arguments in favor of putting the work immediately under the jurisdiction of the school board see *Ibid.*, pp. 143-151.

[3] *Preventive Medicine and Hygiene* (New York, 1917), p. 553.

decomposition, hence it is the most difficult to collect, transport, and deliver in a fresh and clean condition. But the mere presence of bacteria in milk, even though in large numbers, does not necessarily indicate contamination; it is the *kind* of bacteria that matters most. Nevertheless, a high bacterial content is good ground for suspicion that the milk is old, dirty, or otherwise below proper standards. The number of bacteria in milk is, on the whole, the best indication of its general freshness and cleanliness. Some of the larger American cities permit the sale of milk containing as many as 500,000 bacteria per cubic centimeter; but it is the opinion of some public health experts that 100,000 per c.c. ought to be the maximum.[1] In the case of certified milk, so called, the limit should be fixed a great deal lower.[2]

**The Difficulty of Safeguarding the City's Milk Supply.**

From its source on the farms milk passes through several hands before reaching the customer, and at each of these points may be contaminated. Careless milking, the storing of milk in unsanitary places or in unclean utensils, the rinsing of utensils in polluted water, the handling of milk by persons who have incipient disease or have just recovered from disease, the lack of adequate precautions in transporting or delivering the milk—any of these things may result in contamination.

A large city uses each day an enormous quantity of milk and milk products. In New York City the daily consumption is more than two million quarts. This milk is brought from nearly fifty thousand farms scattered through eight different states. One of the fundamental handicaps in coping with the problem of milk-purity arises from the fact that the supply comes from so many farms and dairies so widely scattered. This involves obvious difficulties in the way of frequent inspection; it also increases the difficulty of safeguarding the milk while it is being transported. Yet inspection is essential no matter how laborious the work or how great the cost. Each New York inspector covers seven or eight dairies each day, or about two hundred farms per month.

[1] M. J. Rosenau, *The Milk Question* (Boston, 1912), p. 78.

[2] Certified milk is the term applied to milk which is obtained and distributed under special sanitary conditions prescribed by the public health authorities and is certified by a medical milk commission to this effect. It should not be confused with "pasteurized" milk which is milk that has been heated to a temperature below the boiling point for a short time and then rapidly cooled. The rapid cooling is an essential part of the process. Pasteurizing does not, however, make milk either clean or fresh if it is dirty or stale. It merely annihilates most of the bacteria.

Samples are also taken at random from the delivery wagons in the city and tested at the health laboratory. It would be better to make milk inspection a state function, thus providing a uniform standard.

Relation of Infant Mortality to the Milk Supply.

The close relation between infant mortality and impure milk has long been recognized by the medical profession. Before active steps were taken to reduce the rate of infant mortality it was not uncommon to find it exceeding fifty per cent of the children born in any year. Even as late as 1900 there were several American cities in which the infant death rate was above thirty per cent. But by reason of various measures, chief among which is the better inspection and safeguarding of the milk supply, this mortality rate has been so reduced that in none of the largest cities was it above twelve per cent in 1920 and in some it was as low as four per cent. The establishment of milk-distribution stations in large cities has been of considerable value in enabling the people of the crowded sections to obtain pure milk at reasonable prices.

10. The Inspection of Food.

The marketing of impure or adulterated food is everywhere forbidden by the laws and the health regulations, but until comparatively recent years these rules were not strictly enforced. One reason for this is to be found in the fact that many articles of food are subjects of interstate commerce, produced in one state to be sold in another, and hence not easily made amenable to local control. In 1906, however, Congress passed a comprehensive law known as the Food and Drugs Act, by the terms of which the national government assumed the duty of eliminating impure food from general commerce. This act prohibits the adulteration

The Food and Drugs Act (1906).

of food and drugs; it makes provision for the inspection of meats at the great packing plants; it requires that all packages of food and drugs shall be branded correctly and that when artificial preservatives are used, the label shall state the fact. All impure, adulterated, or wrongly-branded articles are excluded by the federal authorities from interstate commerce under provisions of this law.

The Need for Better Local Inspection.

The supervision of the national government does not extend, however, to articles of food which are produced, distributed, and sold within the territory of a single state. As regards such articles, the task of protecting the public against impurity and adulteration rests with the state and local health officers. These

officers perform their work by frequent inspection at places where food is produced and sold. As a rule, however, there are too few of them and they are not sufficiently skilled to cope with the newer and more refined methods of adulteration which are being devised from time to time. Most forms of food adulteration, happily, are not directly dangerous to health; they are resorted to solely for the purpose of making the product cheaper or more attractive in appearance.

Food as a Fundamental Factor in Health.

The importance of diet in relation to health has not been adequately appreciated until very recent years. But diet is fundamental, not only in the growth and nutrition of the individual, but in the building up of resistance to disease throughout the community. To this end it is in the public interest that the diet of all the people, and especially of the children, shall be adequate and well balanced. This is the justification of what the school authorities do in the way of supplementing at the schools the deficient and ill-balanced diet which many of the poorer children obtain at home. Such action is not paternalism run riot, as some hindward-looking folk would have us believe; it is merely a measure of public health conservation. It is infinitely more economical to use public funds in building up a general resistance to disease than to spend what otherwise becomes essential in the way of clinics, dispensaries, and hospitals for the care of those whose powers of resistance have become impaired.

11. Controlling the Sale of Narcotics.

The indiscriminate and unchecked sale of narcotic drugs (morphine, cocaine, opium, etc.) has led in past years to serious evils. Persons who contracted the habit of using narcotics soon became confirmed addicts and contributed largely to the quota of physical wrecks, of criminals, and vice promoters. The drug habit grew to such dimensions that the national government, some years ago, took the manufacture and sale of these drugs under its own supervision. Under the provisions of the Harrison Act, narcotics cannot now be bought or sold except under strict regulations which involve the written request of a qualified physician. The enforcement of the regulations is partly in the hands of federal officers, but their work is supplemented to a considerable extent by the vigilance of the city health authorities and the municipal police. Whether the evil has been substantially diminished in the cities is a matter on which there is some difference of opinion.

But it is beyond dispute that a good deal of trade in narcotic drugs is still carried on through illicit channels.

12. Prohibition as a Public Health

The relation of the liquor traffic to the public health is a matter upon which men have not entirely agreed; but it is a well-recognized fact that the general use of intoxicating liquors led in many cases to poverty, and poverty in turn brought undernourishment and disease in its train. Alcohol is a drug, a habit-forming drug. It lowers bodily resistance, impairs physical and mental efficiency, fosters crime, diminishes self-control, promotes immorality, and engenders economic waste. It clouds judgment, depresses will power, and stupefies the highest functions of the human mind. The action of the United States in adopting the Eighteenth Amendment, by which the manufacture, transportation, and sale of all intoxicants is forbidden, may therefore be looked upon as a step which, in the long run, will conduce to the betterment of the public health. It is already apparent, however, that the task of maintaining and enforcing the policy of prohibition will require no end of persistence and determination.

13. Controlling the Smoke Evil.

Pure air is another essential to the maintenance of the public health. Rural parts of the country encounter no difficulty on this score, but the larger cities are now finding it necessary to protect the air which citizens have to breathe. In these days of smoke-belching industry, the very atmosphere of the large city is laden with a menace to health and cleanliness. An investigation made in New York some years ago disclosed the fact that poisonous gases were being discharged into the air by the smokestacks and chimneys of the city at an appalling rate. And apart from the menace to health, attention was called to the heavy damage done by soot-laden atmosphere to the furnishings of houses and the contents of shops. Most of the smoke is contributed by small plants in which the furnaces were originally designed to burn anthracite but are now using bituminous coal in which the percentage of volatile gas is much larger. To secure the abatement of this nuisance many cities, both in Europe and America, have adopted regulations which require the use of mechanical smoke consumers by all industries using soft coal.[1] The enforcement of

[1] A good description of the various methods by which the emission of black smoke may be prevented is given in the pamphlet on *Smoke Regulation* issued by the Department of Parks and Public Property, Newark, N. J. (1918). The experience of Manchester, England, with reference to the

this requirement is not at all difficult, because any violation is visible to the naked eye.

Organization of the Health Department.

In European cities the public health department is everywhere in immediate charge of a qualified medical officer who devotes, in the larger municipalities, his full time to the duties of his office. The general rules relating to public health administration are made by the national government and a strict watch is kept by the latter over the local health authorities. In the French Republic the ordinance power of the *maire* includes the making of public health regulations, but only within the scope of the national laws. In the larger communities, with the exception of Paris, he appoints the local health administration. In England there is a "medical health officer" for every borough; his work is supervised not only by the municipal council but by the Ministry of Health in London. Laymen are not to be found in charge of the technical duties of public health administration in any European city.

1. In Europe.

2. In America.

In the United States, on the other hand, the traditional procedure has been to place the municipal health department in the hands of a board (usually called the board of health) made up of three or five members. Of these members it is customarily (although not always) required that one shall be a physician. Students of municipal administration, as well as men in active public life, have been disposed to regard the board system as particularly appropriate to the management of this department. Twenty-five years ago a New York jurist of high repute and large experience in municipal affairs argued at considerable length and with great plausibility in favor of it. The work of the health department, he pointed out, is in part legislative; it involves the making of rules and regulations which have the force of law. This authority should not be vested in a single individual lest the way be opened for oppression and partiality.[1] And Professor Beard, ten years ago, gave it as his opinion that "more may be said in behalf of a board for public health administration than perhaps any other branch of municipal government." [2]

The Need for Professionalizing This Department.

In the days when public health activities consisted chiefly of rule-making, rather than of rule-enforcing, there was some

abatement of the smoke nuisance is described in E. D. Simon, *The Smokeless City* (London, 1922).

[1] Dorman B. Eaton, *The Government of Municipalities* (New York, 1899), pp. 407-414.

[2] Charles A. Beard, *American City Government* (New York, 1912), p. 264.

cogency to the arguments in favor of the board system. If an epidemic broke out, the chief function of the health authorities was to promulgate some precautionary regulations. They would order yards cleaned up and manure piles removed; they would close the schools, and advise householders to boil water before drinking it. Their duties were legislative rather than executive. This is still true in small communities, but in the larger cities the work of the public health department has been greatly transformed during the last twenty years. The regulations are now framed, for the most part, by the state. They are embodied in a public health law or are made by the state department of health.[1] The chief duty of the municipal health department is to see that these regulations are applied and enforced. The work has become almost wholly executive in its nature. With the rapid advance in the science of public hygiene, moreover, the work has become steadily more extensive, more varied, and more technical in its character.[2] In large communities it can no longer be properly done by a board of laymen, even though a physician be one of its members. The need today is for a health commissioner at the head of the department. Most of the larger American cities, and some smaller ones as well, have made the change; the rest will undoubtedly follow in time.[3] But the board system has gained such a firm anchorage that it is not easily dislodged.

Qualifications of a Competent Municipal Health Officer.

The head of the health department, no matter what the size of the city, ought to be a full-time, well-paid, properly-trained, medical officer. The care of the public health should not be en-

[1] H. B. Hemenway, *Legal Principles of Public Health Administration* (Chicago, 1914).

[2] For example, the municipal health department in a large city now has to deal with such varied matters as vital statistics, burial permits, the control of nuisances, quarantine, the ambulance service, the supervision of communicable diseases, mosquito suppression, public clinics, municipal free dispensaries, child hygiene, the inspection of food and milk, smoke abatement, the inspection of markets and restaurants, the maintenance of laboratories, the making of investigations, the licensing of slaughter houses and other establishments, the medical inspection of school children, the maintenance of day nurseries and milk stations, and the issuing of bulletins. Sir George Newman's *Outline of Preventive Medicine* (London, 1919), gives an admirable exposition of the administrative functions of a modern health department.

[3] In New York City the public health administration is still entrusted to a board consisting of the health commissioner, who is the head of the department, the police commissioner, and the health officer of the port of New York. The last-named is a state official.

trusted to the spare time of a local practitioner. Except in rare instances the general practitioner has had no training in the science of public health protection. Public health work has now become a separate profession.[1] The practitioner who professes to be a physician, a surgeon and a public health expert, equally proficient along all three lines, is not likely to be proficient in any of them. Public health administration, moreover, requires a measure of organizing and executive capacity which the general practitioner may or may not possess. And in any event the work of the municipal health department cannot be well performed unless the man at its head gives it first claim on his time and attention. A physician with a private practice cannot give to public health problems the unremitting care that they require. Furthermore, when an epidemic comes his own practice naturally increases, so that he finds himself able to give the least time and thought to public health problems at the moment when his services are most urgently needed.[2]

**Scope of the Health Department's Functions.**

The head of the health department ought to be called health commissioner or director rather than city physician. The latter title implies that his main function is to visit the sick who cannot afford a regular practitioner. The health commissioner or director should rather deal with problems in the large. His duties should be confined to matters which concern the health of the whole people. Sanitary functions, moreover, such as street cleaning and garbage removal, which have only an incidental relation to the public health, should not ordinarily be included within the jurisdiction of this department. They can better be turned over to the department of public works. Along with a limitation of his duties within reasonable scope the health commissioner should have security of tenure, an adequate salary, a sufficient corps of assistants and inspectors, proper laboratory facilities, and, above all, the cordial support of the public. The requirement that the health commissioner must be chosen from among the residents of the municipality should be abolished, leaving the city free to choose the best available man wherever he may be found. If

[1] To such an extent is this now recognized that professional schools for the training of public health officers are now being established with courses which lead to the degree of Doctor of Public Health.

[2] If it be suggested that a small city cannot afford to employ a full-time health officer, the answer is that two or more neighboring communities can combine to do this. In many parts of the country this is being done.

there be any feeling that all this will lead to a "bureaucratic" administration of the health department, such fear can be allayed by appointing a board of laymen to act with the health commissioner in an advisory capacity.

The Cost of Public Health Work in the Cities.

Compared with the outlay in other departments of city administration such as police or fire protection, the expenditures for public health work in European and American cities are relatively small.[1] New York City, for example, has built up an elaborate and highly efficient health department; yet the cost of maintaining it is less than a dollar a year per capita of the city's population. Police administration takes more than four times as much. The entire amount expended by all the cities of the United States for conservation of health in 1921 was only twenty million dollars, which is about the cost of a single modern battleship. American cities have not yet learned to be generous in appropriations for public health work. This is partly because the work is new, but partly, also, because the health department offers very little patronage and hence does not readily acquire friends among the local politicians.

State Control of Municipal Health Work.

The guardianship of the public health is no longer a local enterprise to be carried on in each community as its health authorities deem best. Even though municipalities may not like the idea, there must be some central supervision over all of them, provided by the state. This is axiomatic, for the incompetence or laxity of officials in one community may visit penalties upon its neighbors. In every state of the Union, accordingly, a state department of health has now been established.[2] This department is usually under the supervision of a state board of health, but in a few states a single health commissioner has been placed in charge, sometimes with council to assist him. The powers and duties of these state departments vary a good deal throughout the country, but as a rule they do not have much executive authority. They make investigations into the causes of disease; they give advice to the municipalities on health and sanitary problems; and they actively assist the local authorities when an epidemic threat-

[1] Franz Schneider, Jr., *A Survey of the Activities of Municipal Health Departments in the United States* (Russell Sage Foundation, New York, 1916).

[2] The first permanent State Board of Health was established in Massachusetts (1869).

ens to spread beyond local control. In some instances the state governments have boldly taken over the control of all public health work, and have vested the appointment of the local health officers in the hands of the state health department[1] It is not improbable that this drift toward centralization will grow stronger.

The Health Work of the National Government.

By the constitution of the United States the national government is granted no specific powers with reference to the preservation of the public health. But conditions have made it desirable that the national authorities should supplement the health work of the states, the more so because the national government alone can control immigration and the movement of the people from state to state. Consequently the United States Public Health Service was established in 1912, although health work had been carried on by the national government through various other agencies prior to that date. It has charge of quarantine at all American ports of entry; its assistance may be obtained by the states at any time in coping with epidemics; and it maintains well-equipped research laboratories for the study of all questions affecting the public health. It is believed by many physicians that the work of this bureau is so important that it ought to be made a regular department of the national administration with a member of the cabinet at its head.

The International Protection of the Public Health.

No matter how watchful a country may be in guarding the health of its people it can never feel at ease so long as epidemics are raging in other lands. Travel and trade may carry disease across the best-guarded borders. International co-operation in health protection is accordingly very desirable if it can be secured. With a view to promoting such co-operation the Covenant of the League of Nations pledged all member-countries to take steps for the international prevention and control of disease. It also contained provisions for the establishment of an International Health Office with the function of gathering data relating to public health matters, promoting the acceptance of the best health regulations by the different countries, and securing common action in the case of widespread epidemics. It is interesting to see, therefore, how public health work, beginning on a neighborhood scale less than a century ago, has widened to a municipal,

[1] In Pennsylvania and in Massachusetts, for example, there are district health officers, appointed by the state health authorities.

state, national, and even an international function. And rightly so, for it comes close to the interests of all humankind.

The Lesson Which This Chapter Teaches.

Perhaps it may not be amiss to add a final paragraph by way of driving home one of the lessons which this sketch of public health development and administration ought to teach. The advance which the world has made in sanitation and hygiene during the past half century is one of the mightiest achievements of modern civilization. What has been written in this chapter is merely the brief story of one notable triumph after another, each contributing in an almost unmeasurable degree to the comfort, happiness, and prosperity of mankind. Now who are they that have done all this? Certainly not the toilers in the fields and factories to whose efforts we are so often told that all wealth and progress are due. First and last it has all been the work of highly-trained scientists using the methods of experimental research in their laboratories. And if the remarkable advance is to be continued it can be continued in no other way. Let those who like to scoff at education, science, and research tell us how they would set about prolonging the days of a man's years!

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# CHAPTER XXXVI

## HOUSING AND HOUSING REFORM

This Problem is by No Means New.

We are accustomed to think of urban congestion as a very modern problem, one of the by-products of the factory system and the development of huge industrial enterprises. Work is centralized, we say, and the worker must live near it. This means that he crowds upon the heels of his fellow-worker; the single house makes way for the tenement, and the relentless pressure on space gives rise to a housing problem. But urban congestion far antedates the smoke-scattering giants of an industrialized age. We have already seen that ancient Rome was a seething vortex of humanity with her million souls crowded into an area only a few miles square. Rome had no factories, yet she was a city of *insulæ* into which the poor were packed like steerage passengers; without a water supply, without any sanitary appliances whatever, without glass windows. No civilized city of today would tolerate the housing conditions that prevailed in the most cultured community of the ancient world. No, the housing problem is not a new one; the cities have been grappling with it for fifty generations.

What Urban Congestion Means.

Not until the latter part of the nineteenth century, however, were the evils of congestion made clearly apparent by means of statistical studies, and it is only within our own day that any really effective steps towards alleviation have been taken.

Relative Densities of Population.

The close relation between congestion and a high death rate was never discerned by the public authorities until exhaustive studies, undertaken in the great cities during the second half of the nineteenth century, placed it beyond all reasonable doubt. By congestion is meant an abnormally high density of population, in other words too many people living in a given area. The average density of the population in the United States as a whole is about thirty-five persons to the square mile.[1] But

[1] This is very low as countries go. The density in England, for example, is 700 persons per square mile and in Belgium 658. India and China are

the unevenness of the distribution is such that the density varies from 556 in Rhode Island to less than one person per square mile in Nevada. In the great cities it mounts at times to as many as 15,000 persons per square mile. Even within the city limits, however, there is a great unevenness. As many as a thousand persons may be housed upon a single acre, or at the rate of 640,000 persons to the square mile. In any study of housing problems, therefore, it is necessary to take small units of area, a ward, a precinct, or even a single city block.[1] Figures of density, averaged for the whole city including its suburbs, do not tell us much.[2] What we want to know is the nature and location of the worst conditions. In Boston, for example, the average density is less than thirty persons to the acre, which is not a bad showing. But the fact that fifteen per cent of the people live in regions having a density nearly five times as great puts quite another face on the figures.

Figures of Population Per Acre Do Not Tell the Whole Story.

Nor do figures of population related to land area tell the whole story of congestion, for it is obvious that the number of people who can be comfortably housed upon a given tract will depend upon the character of the buildings erected. New tenements may be underpopulated and yet contain enough people to overcrowd a row of one-story, wooden ramshackles. To determine whether the housing of the people is satisfactory we must know how much houseroom there is per capita, how much housed air-space per person. And it is important that such data shall be made available because it has been found by careful investigators that the amount of illness and malnutrition, the death rate, the ratio of immorality, and the amount of crime all tend to show an increase when housing accommodations fall below a certain

popularly thought to be crowded countries but they do not reach half the density of England or Belgium. Were the population of the United States multiplied five times over, there would still be, on the average, a whole acre of space for every man, woman and child in the country.

[1] See, for example, T. J. Jones, *The Sociology of a New York City Block* (New York, 1904).

[2] These figures, moreover, are not always dependable. Every tenth year the figures supplied by the United States Bureau of the Census are sufficiently reliable, being the result of an actual count. Some of the states, likewise, make a count in the middle of each decade. But between these counts a considerable shifting of population may take place. To keep track of this the city authorities make estimates of population based upon school attendance, on the number of names in the city directory, or on some other basis, none of which are very trustworthy.

minimum per family. Saving space beyond a certain point is a poor form of social economy.

Early Investigations of the Housing Problem:

The first comprehensive and scientific investigation of urban housing conditions was that made in Berlin during the years 1880-1888. Down to 1880 the Berlin death rate was compiled for the city as a whole; but in that year the authorities began the practice of classifying the figures so that they would show the number and proportion of deaths according to the number and location of rooms occupied. The results were astonishing. The death rate among families occupying only one room (and there were over 15,000 such families) was found to be nearly thirty-five times as high as that among families occupying four rooms or more.[1] About six per cent of the city's population contributed nearly fifty per cent of all the deaths! Never before had the relation between housing and death rates been shown with such tragic directness.

Berlin.

In due course the inquiry led to action, and Berlin adopted a new code of housing regulations, the first comprehensive tenement house law enacted by any of the world's great cities. This code required that not more than two-thirds of any city lot should be built upon (thus affording better access for light and air); it insisted upon a designated minimum of housing space per individual, placed strict regulations upon the use of basements as dwellings, and established a system of regular tenement house inspection.

The London Investigations.

Even before this investigation had been completed a somewhat wider survey of housing and living conditions in the poorer sections of London had been inaugurated under private auspices and a Royal Commission on the Housing of the Working Classes had been set to work by Parliament. The chief figure in the London survey was Mr. Charles Booth whose helpers secured their information by going from house to house. As an actual portrayal of how the other half of London lived in these mid-Victorian days there is nothing that surpasses this monumental

[1] A summary of the results is given in the appended table:

| *Number of persons housed* | *Number of Rooms per family* | *Death rate per 1,000 per annum* |
|---|---|---|
| 73,000 | 1 | 163.5 |
| 382,000 | 2 | 22.5 |
| 432,000 | 3 | 7.5 |
| 398,000 | 4 or more | 5.4 |

study of life and labor in the crowded parishes which Mr. Booth gave to the world more than a quarter of a century ago.[1] The awful pictures of overcrowding, squalor and poverty which Booth's earlier volumes presented, corroborating as they did the report of the Royal Commission, made a deep impression in England. They furnished both the impulse and the information for a movement to enlist the aid of Parliament in bettering conditions, a movement which resulted in the passing of a notable statute, the Housing of the Working Classes Act of 1890. This measure, from which other countries have since copied many provisions, is one of the great landmarks in the annals of housing reform.

The British Housing Act of 1890.

The Act of 1890 gave the local authorities power to make regulations for the control of building construction, sanitary conditions in homes, the height of buildings, the use of basements, and the minimum size of rooms. It also gave them power to acquire and condemn unsanitary areas, to demolish the houses thereon after paying just compensation to the owners, and to arrange for the building of model tenements. Stipulation was made, however, that the new tenements must provide for the rehousing of a high percentage of those dispossessed. The London County Council and the councils of the various larger boroughs promptly took advantage of these powers and embarked upon schemes of municipal house building.[2] From time to time since 1890 the act has been amended and the powers of the local authorities extended. In 1909, by the Housing and Town Planning Act, the councils were empowered to order the reconstruction of any dwelling found to be unsanitary or otherwise ill-adapted for human habitation. Or they might acquire such houses and make such alterations as were necessary. Finally, in connection with

[1] The data gathered by Mr. Booth was published in seventeen volumes under the title *Life and Labor of the People of London* (London, 1887-1895). The last volume summarizes and interprets the result of the whole investigation.

[2] The earliest, and in some respects the most notable, of these was the Bethnal Green project carried out by the London County Council in 1891-1893. Bethnal Green was the worst of London's many slums. Comprising an area of about fifteen acres it had been built up with hundreds of low cottages on streets only eighteen feet wide. Nearly six thousand people were packed into these little buildings. The tract was acquired for about £300,000; the old cottages were demolished; new streets were laid out, none of them less than forty feet in width, and on the new streets model tenements were constructed. These buildings were five stories in height, divided into two-room and three-room apartments.

the housing shortage which resulted from the war the English municipalities were given a still broader range of authority.

Housing Investigations in the United States.

In the United States no successful attempt to deal with the housing problem in any comprehensive way was made by the larger cities before the opening years of the twentieth century. In New York City the evils of congestion were brought to the attention of the city authorities from time to time, and some tenement house regulations were framed, but they were badly-drawn, and too leniently enforced. Investigations were made under both public and private auspices on several occasions, but they accomplished little and it was not until 1899-1900 that conditions were thoroughly probed by a state commission appointed for the purpose.[1] Conditions in some parts of New York City were found to be quite as bad as any that existed abroad. In many cases they were too foul for delineation either in print or in pictures.[2] The commission made its report in 1900 and recommended the passage of a comprehensive tenement house law. The legislature of New York State was reluctant to accept its recommendations; but public opinion had become aroused and in the end the tenement house law of 1901 went into effect. The provisions of this statute were so far in advance of anything previously applied to American cities that they may be said to have inaugurated a new era in tenement house regulation. Other cities, however, soon followed New York's example and comprehensive housing laws are now in force in most of the larger American communities.[3] During these last two decades,

The New York Investigations of 1899-1900 and the Tenement House Law of 1901.

[1] The appointment of this commission was the work of Theodore Roosevelt, then governor of New York. He was largely influenced by personal knowledge acquired while a member of the New York police commission some years previously, and by the vivid descriptions of tenement house sordidness given him by his intimate friend, Jacob A. Riis, whose books on *The Battle With the Slum*, *The Children of the Tenement* and *How the Other Half Lives* were widely read and made a deep impression about this time.

[2] The commission's report may be found in the two volumes on *The Tenement House Problem*, edited by Robert W. DeFodrest and Lawrence Veiller (New York, 1903). The illustrations tell most of the story, and the time spent by anyone in looking at them will not be wasted.

[3] While it is customary to use the terms "Building Laws," "Housing Laws" and "Tenement House Laws" as roughly synonymous, it is not correct to do so. Building Laws apply to all structures, including factories, theatres, and shops as well as dwellings. Their provisions, moreover, relate to the materials and methods of construction rather than to occupancy. Housing Laws relate only to dwellings, and Tenement House Laws to multiple

moreover, the regulations have everywhere increased in strictness and the methods of enforcing them have been steadily improved. Nevertheless the evils are not yet wholly eradicated nor are they likely to be for many years to come.

The Basic Cause of Overcrowding Everywhere.

Congestion is due to no perversity of nature. The slum is a man-made contrivance. Its existence may be traced very largely to a single cause—the natural desire of the worker to live within convenient distance of the industry in which he is employed. The desire for accessibility to the centers of employment is a fundamental factor in promoting congestion of population. Now accessibility is a question of distance, but it is also one of transportation facilities. Where these facilities are ill-planned or inadequate the incentive to crowding is increased.[1] Low wages, such as deter the worker from spending any of his earnings in carfare, and a long working day which makes him begrudge the time spent in transit between his work and his home—these are secondary factors. The desire of the worker—and more especially the desire of his family—to be near the centers of recreation and amusement also count for a great deal. The motion picture shows, the lodge rooms, the dance halls, the great white way—they all make a natural appeal to the wage-earner and his household. The cost of food, moreover, is usually less in the downtown sections than in the suburban areas and this is especially true of the cheaper qualities which the poorer families buy. The forces which tend to the congestion of the inlying districts are both economic and psychological; they are strong and difficult to counteract.

Can the Movement to the Inlying Districts be Counteracted?

Mention has been made in an earlier chapter of the fact that many large manufacturing plants are nowadays uprooting themselves from the downtown sections of cities and moving to the

dwellings only. Most American cities have one general code covering the whole field.

[1] A study of the home locations of more than 100,000 people who are employed in the Loop District of Chicago showed that less than 4 per cent walked to their places of employment. For this district the transit facilities are good. But among 29,000 employees of the Stock Yards District it was found that nearly 48 per cent lived within walking distance of their work and this was largely because for many years the transportation facilities to and from this part of Chicago were extremely bad. Similar illustrations drawn from other large cities may be found in H. M. Brinckerhoff, "The Effect of Transportation Upon the Distribution of Population in Large Cities" in *Proceedings of the Thirteenth Annual Conference on City Planning* (1921), pp. 49-69.

outskirts ten or a dozen miles away. This is a new development and may prove to be a centrifugal influence of great importance. It is altogether too early to venture any prediction that the urban influx which accompanied the concentration of industry will be reversed by this exodus of the factory to the outlying areas, although this may conceivably be the case. At any rate the game of hide-and-seek which is now being played by labor and employment, the one trailing the other wherever it goes, affords us a striking example of the great waste in human effort which the absence of community planning has involved. It ought not to be assumed, moreover, that the housing problem will disappear if the wage-earners in large numbers turn their steps countrywards. On the contrary it may only be intensified if these satellite communities are permitted to grow up with the speed of mushrooms, unplanned and unguided. Already some of them are leaving the whole housing problem to the precarious mercies of the land speculator and the real estate promoter. In others the dominant industrial concerns have interested themselves in the building of "company houses" or in the improvement of transportation to the center of the city.[1]

The Social Cost of the City Slum.

Despite these changes in the drift of industry it is altogether probable that certain downtown areas of the great cities will continue to be overcrowded and that this congestion will create evils which must be curbed by regulative and constructive action on the part of the municipal authorities. Overcrowding means an abnormally high death rate. Recent investigations have shown that the children who live in crowded tenements are undersized, undernourished, and underdeveloped mentally.[2] Tuberculosis is fast becoming, in fact already is, a disease of the crowded tenements, a class disease. This great white plague, which costs the United States more than 150,000 deaths per year, presents a sociological as well as a medical problem. It has also been demonstrated that over-crowding is associated with crime, immorality, and shiftlessness. It accentuates the bitterness of class antagonism. The slum is a canker in the social organism. Whenever it has been exorcised one can find an immediate and perma-

[1] See also the chapter on "Industry's Escape from Congestion" in Graham R. Taylor's *Satellite Cities* (New York, 1915), pp. 91-126.

[2] An investigation made by the Scottish Education Department some

nent decrease in the death rate, the sickness rate, and the crime rate. How great a factor the slum is in promoting industrial unrest and social discontent no one can venture to say. There is no way of measuring it. But where honest toil purchases nothing but squalor, want, and worry there can hardly be anything else than a resentful temper.

The city of the tenements is an area into which thousands of men, women and children are herded together into small, ill-ventilated rooms, many of them dark and foul, where sunlight never shines and where fresh air is a luxury. It is a place of fire-traps, cellars full of rubbish, unlighted hallways and dilapidated stairs, brokendown plumbing, and roofs that leak. It is a place in which all the circumstances which surround childhood, youth, manhood and womanhood make for unrighteousness, for low standards, and for a sullen citizenship.[1] New York City contains over 120,000 tenements, good, bad, and indifferent. Nearly four million people live in these structures, more than the entire population of the United States when independence was declared. In one small portion of Manhattan Island (the district south of Fourteenth Street and east of Broadway) there are more than a half-a-million people dwelling in tenements, the

years ago, covering nearly 80,000 school children between the ages of five and eighteen years, gave the following results:

| Sex | Space occupied by family | Average weight (pounds) | Average height (inches) |
|---|---|---|---|
| Boys | One room | 52.6 | 46.6 |
| | Two rooms | 56.1 | 48.1 |
| | Three rooms | 60.0 | 50.0 |
| | Four or more rooms. | 64.3 | 51.3 |
| Girls | One room | 51.3 | 46.3 |
| | Two rooms | 54.8 | 47.8 |
| | Three rooms | 59.4 | 49.6 |
| | Four or more rooms. | 65.5 | 51.6 |

See the summary in Carol Aronovici, *Housing and the Housing Problem* (Chicago, 1920), p. 12. It is not contended, of course, that overcrowding is the only cause of undersize or underweight. Overcrowding usually indicates poverty, and poverty compels under-nourishment.

[1] "Great cities are liable to become great dangers in a political sense; because the more men are crowded in great masses, the more easily they become excited, the more they are swept away by words, and the more they form what might be called a revolutionary temper." Lord Bryce, *The Menace of Great Cities* published by the National Housing Association, June, 1913, p. 13. *Cf.* also, however, *above*, Vol. I, pp. 146-147.

greater number of them under conditions of acute overcrowding.

The evils of overcrowding require no long narration; but what of the remedies?

The Approach to the Question of Remedies.

In approaching this question of remedies three interests must be kept in mind. First, and most important, is the interest of the whole community. Its standards of safety, health, and morals are at stake. No interest is paramount to this—neither that of the landowner, the builder, the houseowner, or the tenant. The starting point in housing reform, therefore, is the need for protecting a prime and paramount interest. Next comes the wellbeing of the occupants, the men, women and children who as tenants and lodgers must live in the tenements. They are the ones who bear the brunt of the hardship when the public authorities fail to provide remedial measures. Finally, there is the owner. His relation to the property is not one of sentiment but of dollars and dimes. He is not in the business of constructing and operating tenement houses from motives of civic patriotism or in order to solve the problems of other men. He takes the cash and lets the credit go.

The Public Interest is Paramount.

As between these three interests the sequence of importance ought to be clear. The interests of the community should be placed first by a wide margin; those of the occupants second. The landlord is entitled to economic justice, to a proper return on his investment, and to be immune from having his property rights impaired except by due process of law. But as a matter of practice this is not the order in which the respective interests of public, occupant, and landlord have usually been placed by lawmakers and courts. The landlord has represented the forces of intrenched wealth and privileges; he and his allies have often managed to make their own claims paramount. All projects of housing reform since the days of the Gracchi have encountered opposition from landowners, builders, house-owners, house-renting agencies, and from those who have house-building materials to sell. The tenant, for his part, is frequently neutral or indifferent, for although he strongly desires better housing, he knows that better housing means higher rents. There is no great likelihood of any substantial improvement in housing conditions, therefore, so long as the initiative is left either to landlords or tenants. Where improvement has taken place it has been largely

due to the activities of social workers, reformers, and public-spirited citizens who are neither owners nor occupants of tenement houses.

Municipal Housing as a Solution.

Among Socialists and those inclined to socialism there is an idea that the best solution of the housing problem may be found in direct action on the part of the city authorities. They would have the cities erect modern dwellings, maintain them, and rent them at moderate rates. Many non-Socialists have also favored this policy. Both English and German cities have given it a trial on a considerable scale; it has likewise been tried, though not so extensively, in nearly all the other European countries.[1] And there is a good deal to be said, of course, for "model" dwellings, whether built by the city or under private auspices; they are infinitely better as places of abode than the squalid, cheerless aggregations of brick and mortar in which the masses of European workers live.

Its Inadequacy.

But even when the policy of building municipal tenements is pursued on a very large scale, involving the expenditure of millions, it does not make any noticeable dent in the situation. London, for example, has been building workmen's dwellings for many years and has invested a very large sum of money, so large that the London County Council has been called "the world's greatest spendthrift," yet fewer than one per cent of the London workers are housed today in municipal tenements. It has been figured that the tenements, when economically built, cost about $300 per occupant, or from twelve to fifteen hundred dollars per family. One can easily figure what is would cost, at this rate, to rehouse a city of several million people. In New York City tenements and small dwellings to the value of a quarter of a billion dollars go up during every normal year, all of them erected by private capital. In view of the proverbial slowness, the admitted inefficiency, and the occasional dishonesty of municipal officialdom in America it is difficult to see how the large cities can hope to provide adequate and satisfactory housing accommodations for their people by the substitution of public for private construction.

European Experience in Municipal Housing.

European experience in this field has demonstrated, more-

[1] A great deal of useful information on this subject is contained in the bulletin entitled *Government Aid to Home Owning and Housing of Working People in Foreign Countries*, issued by the United States Bureau of Labor Statistics (No. 158, Washington, 1915).

over, that practically all schemes of municipal housing result in financial loss. The municipal accounts do not always show it; on the contrary they sometimes indicate a profit; but this is due to a process of account-juggling which no business concern could indulge in without soon finding itself petitioned into bankruptcy.[1] No city in any part of Europe can be shown to have erected and maintained municipal tenements at an actual profit if orthodox methods of reckoning profit and loss are used; and most of those which have gone extensively into rehousing schemes are far out of pocket. This is not at all surprising. Buying land, building houses, renting them, collecting the rents, and keeping the houses in repair—all this is a specialized business, requiring skill, alertness, and honesty. It cannot be done at a profit by men who have neither business ability nor business experience. The element of speculation also enters into the question, inasmuch as real estate goes up and down in value more rapidly than almost any other form of investment. It takes a practiced hand to dabble in real estate without mishap. European cities have not succeeded in making municipal tenements pay their own way, yet they are far better equipped to engage in such undertakings than are cities on this side of the Atlantic.[2] It is a foregone conclusion that if American cities should enter the field of municipal housing on any extensive scale, their losses would be very large.

Support is lent to this conclusion by the experience of the

[1] In London, for example, the value of land acquired as sites for municipal tenements has been written down (irrespective of what was paid for it) to what is termed its "housing value." The dwellings are then charged on the books with interest on this reduced value which is often less than a third of the purchase price. See the figures given in Douglas Knoop, *Municipal Trading* (London, 1912), pp. 12-15. Some portions of the areas acquired in connection with London's rehousing schemes proved to be unsuitable for housing purposes and could not be sold at any price. See the *Bulletin* of the United States Bureau of Labor Statistics (above p. 291), pp. 296-297.

[2] Apart from the higher degree of skill and integrity which one finds in most European cities there are many practical obstacles which would be encountered in America. Most American city charters, for example, provide that no contract amounting to more than $1000 or $2000 can be awarded except under strict rules relating to advertising, competition and so on. They provide that almost no official action of any kind may be taken without a public hearing. Municipal employees, as a rule, may not be discharged without a hearing or a trial and the proceedings are often subject to review by the courts.

America's Experience in War Housing.

United States government during the war emergency of 1917-1919. In order to provide adequate housing for the workers in the shipyards and at the great war industries the national government undertook the erection of several thousand workers' dwellings.[1] The work was entrusted to specialists drawn from civil life and appointed without regard to their political affiliations. City planners and housing experts made the designs and supervised the construction. The work was done expeditiously, capably, and without any appreciable amount of corruption or crookedness. When the war was over the federal authorities decided to sell these houses and most of them were sold. The total proceeds from such sales, however, did not amount to anything like what the houses cost. It is true that the construction of these houses was carried on under war conditions, when labor and supplies were expensive; but so were many private dwellings and the latter did not suffer any such shrinkage in market value.[2] The government's experiment in housing turned out exactly as any student of governmental methods might safely have predicted. Even the capable and honest planners and housing experts could not cope with the handicap of having to do things as governments are accustomed to do them. The authorities saddled the whole enterprise with an enormous overhead; they erected the houses extravagantly under contracts made on a cost-plus basis, and ultimately sold them at sacrifice figures.

A Social Defect of Municipal Housing.

Municipal housing and rehousing projects are asserted to be for the benefit of the workers, especially the poorly-paid workers who live in the poorest quarters. It is assumed that these workers do not want to live where and as they are, and that they will gratefully allow themselves to be moved into the model tenements which the municipality provides. But this assumption proves to be unwarranted. The poor, like the well-to-do, resent any dictation as to where they shall live. It is not that they like squalor and overcrowding as such, but they dis-

[1] The work was chiefly done through the Housing Division of the United States Shipping Board, the Ordnance Branch of the War Department, and the United States Housing Corporation.

[2] Some allowance should also be made for the fact that many of the houses erected for the use of war workers were necessarily built in locations which did not prove to be easily marketable under peace-time conditions. But even those houses which the U. S. Housing Corporation built in well-established communities were sold at a substantial loss.

like these conditions less than the loss of their freedom to live where they please. When London put through the Bethnal Green housing scheme more than thirty years ago nearly 6000 persons were evacuated from about fifteen acres of slum area. But when the new tenements were built and filled with tenants it was found that these were not the ones who had been displaced by the demolition of the old dwellings nor were they of the same class. The old tenants of Bethnal Green had drifted into other unsanitary and congested districts; the new tenants were of a better class, most of them thrifty workers who saw a chance to get good houses at low rental. Liverpool found that the only way to keep dis-housed families from scattering was to provide them with temporary dwellings during the rehousing period. Clean up one congested district and the population, unless it is held by some such method as the Liverpool plan, merely flows into another and accentuates the overcrowding there.

Housing Reform Through the Exercise of the Taxing Power.

A second suggestion for the improvement of housing conditions is that the taxing power of the city should be used to encourage the good and to penalize the bad. The first municipality to undertake an experiment along this line was the German city of Frankfort-on-the-Main, which made provision for taxing vacant land at different rates according to its location, and for taxing buildings at varying rates according to their construction or use. Other German cities have to some extent followed the same plan, which is commonly known as the *Lex Adickes* after the Frankfort burgomaster who evolved the general idea. The consensus of opinion is that this arrangement has been fairly successful in achieving its main purpose. So far as the United States is concerned, however, any attempt to tax different types of tenement houses at varying rates would encounter legal obstacles because the constitution and the laws do not permit, in most of the states, any classification of land and buildings for purposes of taxation.[1] All forms of real estate must usually be taxed at a uniform rate. On the other hand it is sometimes permissible to grant entire exemption from taxation, over a certain term of years, to designated forms of industrial or residential property. Many industrial cities in the United States owe their initial progress to the habit of attracting factories by promises

[1] See *below*, p. 453.

of tax exemption, but this plan is easily abused and some of the states have placed restrictions upon it. In 1920, because of the acute housing shortage, the legislature of New York State decided to grant a partial exemption from taxation for a period of years all new houses of a certain type built prior to April 1, 1923. No such favor was extended, however, to houses already constructed. The purpose was to stimulate the construction of dwellings at a time when the need for more houses was being severely felt. The policy was to some extent successful as indicated by the number of houses erected in New York City during the years 1920-1923. The new dwellings were not model houses by any means; most of them merely conformed to the minimum regulations. The tax exemptions did not raise the quality or equipment of the houses constructed.

Housing and Real Estate Speculation.

The building of both single and multiple dwellings is, for the most part, a speculative industry conducted by real estate promoters or operators. The promoter provides as small a portion of the essential capital as he can. Then he goes to some bank and induces this institution to lend him sixty or even seventy per cent of the estimated cost of the land and building, taking a mortgage as security.[1] All that the promoter owns, therefore, is the "equity" in the property, in other words the difference between the market value and the amount of the loan. When the tenement is finished he sells it as quickly as possible, gets his own money free, and starts another enterprise in the same way. If all goes well, if the promoter gets his building finished without strikes or other mishaps, if the cost is not above his estimates, if he sells quickly, and the building stays sold—if all these things happen, he gets a good profit. But if any of these possibilities go against the promoter he is likely to lose all that he has ventured to invest in the enterprise. The risks are great, and being so, the promoter sees no reason why he should put into the building or its equipment a single dollar more than the letter of the law requires.

Municipal Aid to Private Building Enterprises:

European cities have had considerable experience with the plan of lending public funds to building societies or other private associations engaged in the construction of workmen's dwellings.

[1] The banking laws usually fix the maximum percentage that may be loaned by banks on real estate mortgages. The promoter expects this maximum and usually gets it.

(a) In Europe

The city acquires the land, sells or leases it to the building society, advances money (from its accumulated pension funds or sinking funds) to finance the construction, charges a low rate of interest, and takes a first lien on the whole property as its security.[1] The municipal authorities impose conditions as to the size and character of the dwellings to be built, as to their maintenance, and as to the rents charged. Likewise the city reserves the right to purchase any or all of the houses at any future time. To what extent this plan can survive the shock of the financial demoralization which has followed the war it is not yet possible to say.[2]

(b) In America

In the United States, on the other hand, the cities have not followed the plan of lending public funds to building societies although there are no serious legal difficulties in the way of their doing so. The officials who have the custody of municipal sinking funds are usually given reasonable discretion as respects the investment of such funds and in any event the state legislatures can definitely authorize them to advance funds for house-building operations if this action is deemed advisable. But it has not been deemed advisable. If a housing enterprise is sound, it can always borrow money from savings banks, co-operative banks, and other loan agencies. If it is not a sound enterprise, the public's money ought to be kept out of it. Lending the public credit to industrial and commercial projects is not a new thing in America. States and cities, particularly in the western part of the country, learned some costly lessons in this field fifty years ago. That is one reason why American municipalities have been chary of housing schemes such as have been fathered by the cities of Europe.

The erection of municipal tenements, the encouragement of

[1] The detailed arrangements vary from city to city. A full account may be found in United States Bureau of Labor *Bulletin* No. 158, on *Government Aid to Home Owning and Housing of Working People in Foreign Countries* (Washington, 1915). In some cases the funds are furnished by the state government and the city merely guarantees the loan. See also W. H. Dawson, *Municipal Life and Government in Germany* (London, 1914), pp. 176-177.

[2] In England, at the close of the war, the Lloyd George government set out to promote the building of 500,000 "homes fit for heroes." The planning, building, and leasing of the houses were delegated to the local authorities subject to the approval of the Ministry of Health. The cost of building at once soared to unprecedented heights and when contracts for about 200,000 houses had been let the government called a halt. Thereupon the costs dropped to about half what they had been.

The Regulation of Housing by Law.

better construction by means of tax discriminations, and the lending of public money to building societies are measures which European cities have tried, and to some extent successfully. Some progress has also been made, both in America and abroad, along the lines of co-partnership housing and the erection of dwellings by limited-dividend corporations. Co-operative banks have also helped men to build and own their homes. But no one of these plans, or all of them put together, would offer any reasonable hope of solving the housing problem which now exists in the larger cities of the United States. The root of this problem is not difficult to find. It is this: The houses occupied by the workers in American cities are being built, and doubtless will continue to be built by private capital, by speculators and promoters. These promoters will continue to build flimsy, unsanitary, badly lighted, and badly ventilated structures to the extent that the law allows. Being cheaply built, the houses will be cheaply rented; where rents are low the people will crowd in; and where the people crowd in without restraint there will be overcrowding. So the betterment of housing conditions must be brought about, if it is to be accomplished at all, chiefly by the enactment and enforcement of improved housing laws. What the laws set as the minimum, the builder will regard as the maximum, so the minimum must not be set too low.

The Danger of too Drastic Regulation.

This does not mean, however, that housing regulations should be drastic in their provisions and ride rough-shod over all that stands in their way. If legislatures and city councils yielded to the demands made upon them by some of the "better-housing" enthusiasts they would hinder rather than help the cause. Housing reform is a slow process; it must make progress cautiously in order to avoid setbacks. There are pitfalls in the way of a drastic housing law. Some provisions of such legislation may constitute, in the eyes of the courts, a deprivation of property without due process of law, and therefore may be held unconstitutional. A stringent housing code may likewise serve to discourage new construction and thus lead to an increase in rentals, whereupon there will be a general outcry against the regulations and a clamor for their repeal. Housing regulations should not embody the quixotic zeal of social uplifters; their provisions should incorporate the seasoned judgment of experts who are familiar with the structural, social, legal, and economic phases

of the housing problem. There is no model housing code which may be safely copied word for word. The general lines can be, and have been indicated; but the detailed provisions must be drafted to fit local conditions whatever they are.[1]

What a Housing Code Should Contain.

A comprehensive housing code should deal with (a) the *structure,* (b) the *equipment* and (c) the *occupancy* of dwellings. It should determine, in the first place, what proportion of a building-lot must be left free for light and air. In the regulations of most large cities this proportion ranges from one-quarter to one-third of the whole area.[2] It should also fix the maximum heights of buildings unless this has largely been done by a zoning law. A common provision is that no house occupied for dwelling purposes shall be higher than the width of the street which it faces unless it is set back a distance equal to the excess of its height. Reservations of space for rear yards are also required in most cities. The building regulations usually cover such structural questions as strength of foundations and walls, cut-offs between cellars and ground floors, construction of chimneys, the prohibition of windowless rooms (except small closets), the location and lighting of stairs and hallways, and the provision of fire-escapes, so that these matters do not need to be incorporated in a separate code of housing regulations. The aim underlying all structural provisions should be to ensure the greatest amount of safety and convenience without unduly increasing the expense.

Ventilation and Sanitary Equipment.

The housing code should also fix the minimum size of all rooms used for general dwelling purposes (a common figure is ninety feet of floor area) and it should require at least one window in every such room, the window area to be at least one-seventh of the floor area. It should establish the minimum height of the ceilings and should provide for the proper lighting of hallways in all multiple dwellings. Minimum requirements should be established as to water supply, sewer connections and sanitary appliances, including such things as traps, vents and piping. Here, again, the regulations may easily go too far, especially in fixing the minimum requirements which must be met

[1] Lawrence Veiller's *Model Housing Law* (new edition, New York, 1920), is worth mention. Many cities have followed its general lines during the past ten years.

[2] In the case of corner lots the proportion is considerably less.

in the renovation or remodeling of old buildings. The owner who undertakes to modernize part of the sanitary equipment in an old tenement often finds that he must do a lot of extra tearing out in order to satisfy these requirements, so he refrains from doing anything at all. The strictness of the plumbing regulations in many cities have actually retarded the modernizing of sanitary equipment. Some of them are framed as though their sole purpose were to provide needless work for highly paid workmen. The old notion that people are liable to contract typhoid fever or some other disease by inhaling sewer gas through defective plumbing has long since been exploded. Yet there are some cities which still compel house-builders to incur heavy expense in providing various traps and contraptions as a precaution against the spread of disease. And the irony of it all is that these same cities sometimes allow milk to be sold without strict inspection and empty their sewage into a neighboring waterway.

The Prevention of Overcrowding in Tenements.

No matter how admirable the housing requirements may be in matters affecting structure and equipment they will fail of their full purpose if the tenements are allowed to harbor too many occupants. Provisions relating to maximum occupancy are easy to frame and hard to enforce. The usual standard in the United States is 400 cubic feet of air for each adult and half that amount for each child under twelve years of age. Some arbitrary minimum of this sort seems essential although a moment's reflection will convince anyone that the quality of the air is quite as important as the quantity of it. Four hundred cubic feet of air space in a room that has large windows fronting a wide street is quite a different thing from the same cubic area in a dark corner looking out into an air shaft. Congestion is a relative term. Healthy people can work and sleep in a very small space if it is adequately ventilated, while frail or undernourished individuals would find the same amount of space, with poorer ventilation, disastrous to their physical well-being. The air-space standard is obviously defective, but nothing better has yet been found.

The Lodger Problem.

Room-overcrowding in tenement houses is due in part to the size of the families who occupy them, but it is also due to the practice of taking lodgers. Where the family earnings are small, and the rent high, there is a strong temptation to sacrifice personal comfort and convenience for the money that one or more

lodgers will pay. It is the easiest and surest way of augmenting the family income. The taking of lodgers is a well-nigh universal practice in tenement house areas and especially among the foreign-born elements of the population. Motives of racial solidarity as well as of mutual advantage have given it wide vogue. But it means that the family quarters, already scant, must be further congested to a point where there is no privacy or comfort for anyone. Occasionally it has been found that two lodgers are taken for the same room, one sleeping in it by night and the other by day.

By reason of this "lodger evil" the enforcement of the air-space rule becomes virtually impossible. Inspectors can enforce the rules relating to the structure and sanitary equipment of tenement houses, provided they are diligent and honest; but the provisions relating to maximum occupancy can be violated in ways which defy detection. There is no certain way of finding out how many lodgers are being housed in a tenement except by raiding it in the night hours.[1] This, however, is a method which public opinion in the United States would hardly be willing to tolerate and it is not now used in any large city. The

[1] Nearly a quarter of a century ago the Health Department of New York City did adopt this plan. The following description of it is given by Mr. Lawrence Veiller in his pamphlet on *Room Overcrowding and the Lodger Evil* (New York, 1913). "Policemen in squads of two were sent out to make night inspections in those tenements in which the Board of Health expected that room overcrowding would prevail. This was chiefly in the Italian and Russian Polish colonies. Each night the officers started on their work about eleven o'clock and worked until three in the morning. Entering a tenement house they would quietly ascend the stairs and knock at the door of an individual apartment. After a long delay, some sleepy voice would call out in Italian "What was wanted?" to which the answer would be, "To open the door that they were the police." After a long delay the door would be opened and admittance gained; all that generally would be discovered would be a very sleepy Italian family in various stages of undress, holding a lighted candle or lamp, and grumbling at being disturbed in their slumbers. The officers would then carefully search through the rooms, and as a rule would find no one there but the members of the family. They would then descend to another apartment, and the same process would be repeated throughout the house.

To the observer who happened to be passing through the street at that time, an interesting spectacle was presented. His curiosity, I am sure, must have been very much piqued; he must have wondered what that stream of men was going up and down on the outside fire-escapes; for the "simple Italian peasant" in his childlike innocence had seen to it that all lodgers and boarders went out by the windows and down the fire-escapes on the front of the building, while the officers of the law were making their in-

more common plan is to require that no part of a tenement house shall be used as a "lodging house" without a license from the city authorities. But this also avails little without frequent inspection and inspections are so rarely made that the license requirement can be disregarded with impunity. It has been suggested that an effective plan would be to hold the landlord rather than the tenant responsible for violations of the rules just as we now hold him accountable when he knowingly allows his premises to be used for other illegal purposes. Very few tenants keep lodgers without the janitor's knowing it, and the janitor is the landlord's agent.[1]

The Enforcement of the Housing Regulations.

In most cities of the United States the responsibility for enforcing the housing regulations has rarely been concentrated in the hands of any single officer or department. The fire department usually enforces some of the fire prevention rules. Those relating to the structure of tenements are commonly left for enforcement to the building department. The regulations as to equipment and proper sanitation, on the other hand, are often committed to the care of the health authorities; while various matters requiring periodic inspection (such as the lighting of hallways, the cleaning of cellars, and the disposal of garbage) may be turned over to the police for their attention. This division of authority is unfortunate. It encourages a lax enforcement of the laws; it results in frequent conflicts of jurisdiction, and facilitates the practice of shifting responsibility from one official to another. Yet it is not easy, as a practical matter, to secure a complete unity of housing administration. The housing problem is partly a structural problem, partly a health problem,

spections, not to return until they had departed, when the colony of lodgers returned to their slumbers. So fine an art did this become in later years that the lodgers learned "to do the trick" without getting off the fire-escapes at all."

[1] In German cities the lodger problem is readily taken care of by the system of police registration (*Einwohners-Meldewesen*). Every head of a household must register at the nearest police station all persons (whether members of his own family, guests or lodgers), housed in the rooms under his control. Whenever the number exceeds the number accredited to the premises by the air-space regulations, the police intervene. No inspection is needed. The violators of the law automatically convict themselves. Evasion by neglect to register sometimes occurs; but it is not common, because sooner or later such omissions become known to the police through other channels, by information from the local postman or from jealous neighbors, for example, and an exemplary punishment follows.

partly a social problem, and partly a problem of keeping law and good order. A health inspector is obviously not the proper person to pass upon structural plans or to determine whether walls and crossbeams are of adequate strength. Nor is he the one to judge the adequacy of fire-escapes. A building inspector, on the other hand, is hardly the one to deal with matters affecting the hygiene and health of the people who occupy the premises. Neither building inspectors nor health inspectors, moreover, can keep a sharp enough eye on the moral standards of the tenement. The police are the only ones who can do that.

The New York Tenement House Department.

So far as large cities are concerned, the experience of New York is worth study. Since 1901 all matters relating to the structure, equipment, and occupancy of buildings containing more than two families living independently of each other have been entrusted to a separate Tenement House Department. The head of this department is appointed by the mayor, but appoints his own first and second deputy commissioners. These officials have a staff of nearly five hundred subordinates including inspectors, clerks, and investigators, most of whom are chosen under civil service regulations.

Its Internal Organization.

The New York department is divided into four bureaus, known as the executive bureau, the new buildings bureau, the old buildings bureau or bureau of inspection, and the bureau of records. The executive bureau receives all complaints, handles all enquiries, and enforces the law whenever violations are reported to it by the other bureaus. The new buildings bureau has charge of all permits for the erection of new tenements. Plans and specifications must go before it for approval. The work is inspected by the bureau's officials from time to time as the building goes up. When completed it cannot be occupied until a certificate as to sanitary equipment and all other requirements has been issued by the bureau after a final inspection. The old buildings bureau has charge of all matters relating to those tenements which were constructed before the law of 1901 went into force. The inspectors of this bureau make periodic house-to-house visits of inspection to see that the requirements of the law are respected. The bureau of records gathers and arranges all the department's data. It receives from the health department notice of all contagious diseases in tenements and transmits those to the building bureaus for investigation if the cause seems

related to defective housing conditions. The bureau of records is a center for accurate information on every branch of the department's work. It has a complete record of every tenement in the city, its history, ownership, equipment, and occupancy.

The Problem of Enforcing Housing Laws in Smaller Cities.

In cities of a half-million or more, particularly in those which have at least 25,000 tenement houses within their limits, the example of New York might well be followed. The results there have been, in spite of great obstacles, remarkably good. But in smaller cities no such elaborate organization is practicable or necessary. Nevertheless concentration of responsibility is necessary if good results are to be had, and this can be achieved by creating a separate housing bureau within the jurisdiction of either the buildings or the health department. For various reasons the health department is likely to prove the better place for such a bureau. The problem of decent housing is predominantly a problem of public health.

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# CHAPTER XXXVII

## POOR RELIEF AND SOCIAL AMELIORATION

Poverty and Civilization.

Poverty is one of the problems which seems to grow more acute as civilization advances. So long as society was organized on a tribal basis, with property held in common, there could be no paupers. So long as society remained in the agricultural stage there could not be many except in years of famine or pestilence, for everyone lived close to the sources of food and shelter. "He that tilleth the land shall have plenty of bread."[1] It is the growth of cities that has placed large numbers of people in positions of dependency upon others. And this notwithstanding the fact that the growth of cities has greatly increased the productive power of the people. There is plenty of food, clothing, and shelter in the world for the satisfaction of human needs; but in the rigor of competition it has become unevenly distributed. It is in the city that economic competition assumes its severest form and it is there that the rule of "devil take the hindmost" obtains full play. The amelioration of poverty is largely an urban problem.[2]

The Extent of Poverty in Europe.

The amount of poverty in the cities of the Old World is difficult to estimate because so much depends upon what one takes as the normal standard of living. Normal standards differ from country to country, and even from city to city. In the cities of Great Britain it is estimated that from one-fifth to one-fourth of the people are not able, out of their present earnings,

[1] Proverbs, XXVIII, 19.

[2] The terms poverty, pauperism, and dependency are often vaguely and loosely used, but each has its own definite meaning. People whose own efforts do not enable them to maintain a normal standard of living are in *poverty*. Not all who are called poor, therefore, are in poverty but only those who are so poor that their health and physical efficiency are impaired by lack of earning power. *Pauper* is the term applied to one who is a chronic recipient of aid from public or private sources. By some it is restricted to recipients of public charity only. The term *dependency* is used to cover the status of all those who are supported otherwise than by their own earnings,—aged parents supported by their children, for example.

to maintain themselves in a state of good health and physical efficiency.[1] This is a higher proportion than exists in the cities of France, and it is much higher than that of the German industrial cities before the war. The extraordinary rise in prices which has taken place throughout Europe during the past few years, has rendered all the older statistics of poverty obsolete; it is impossible to tell, at the present moment, how great the increase due to the war has been. Nor are there any dependable figures showing the extent of poverty in the cities of the United States. Various house-to-house investigations have been made by charitable organizations in individual cities, and statistics have also been gathered under public auspices, but these figures cover only a small fraction of the ground. The federal census enumerates those persons who are aided by charitable institutions of one sort or another; but this does not afford much clue to the extent of poverty in general.[2] Estimates of persons in poverty run from five to twenty per cent of the whole American population, being highest in the large industrial communities. It would probably be safe to say that ten persons out of every hundred in the United States are partly or wholly dependent upon private or public aid. Probably as many more are on the verge of poverty, but continue to struggle along without assistance from others. Hence it is no hyperbole to speak, as social-workers do, of the "submerged tenth."

In the United States.

The causes of poverty are numerous and complicated, but they can all be grouped into two general classes: First, those which are traceable to the individual, and second, those which are attributable to the environment in which he lives. These we may distinguish by calling them subjective or individual, and objective or social causes. Both sets of causes are usually operative in the same case, although to unequal degrees. Among the subjective or individual classes of poverty the most common are illness, accidents, old age, degeneracy, bereavement, intemperance, shiftlessness, and ignorance.[3] Illness is probably the

The Causes of Poverty:

1. Individual or Subjective Causes.

(*a*) Illness.

[1] J. L. Gillin, *Poverty and Dependency* (New York, 1921), p. 30.

[2] The Census of 1920 listed nearly a million persons in charitable institutions, of whom about one hundred thousand were paupers in public almshouses.

[3] There are, of course, many other contributing causes such as the neglect and desertion of wives by husbands, or the depraved bringing-up of children by their parents.

most important cause. The figures compiled by poor-relief organizations show that it is the immediate reason for at least one-third of all the applications which come to them for assistance, and is a contributing factor in the case of many more.[1] Illness is not only a cause of poverty but to some extent an effect as well. Poverty leads to undernourishment and illness; illness accentuates poverty by increasing the family expenses, or by decreasing the family income, or by doing both. Accidents, which result in either temporary or permanent incapacity to do full work, have also been an important cause of poverty in the past, but they are no longer so to the same extent in view of the provision now made by many countries for industrial accident insurance.[2]

(*b*) Accidents.

(*c*) Old Age.

Old age comes in due course to all, and there are many thousands who make no provision for its coming. This class includes many who have worked hard all their lives, have reared families, and have been useful citizens, but have been either unable or unwilling to save. In England, France and Germany provision is made for them by means of old age pension systems. The pensions are nation-wide, but much of the administrative detail is handled by the city authorities. The German system was inaugurated on a contributory basis—the worker, the employer and the public treasury each paying a share. In England the public treasury pays it all.[3] Bereavement, particularly the loss by death of the family's main support, has been a frequent cause of poverty among women and children. To some extent this has been alleviated by the practice of giving pensions to widows with children, and by the increasing extent to which men who have dependents are now securing life insurance, from private companies.[4]

(*d*) Bereavement.

(*e*) Degeneracy.

Degeneracy, which is also an important cause of poverty, may be defined as inherited physical, mental, or moral weakness. Feeble-minded parents often transmit this defect to their chil-

[1] Improvements in public health measures during the past fifty years have done much to reduce poverty throughout the world.

[2] D. H. Van Doren, *Workmen's Compensation and Insurance* (New York, 1918).

[3] The German system is described in W. H. Dawson, *Social Insurance in Germany* (London, 1913), the English plan in F. W. Lewis, *State Insurance* (New York, 1909).

[4] Information may be found in the publications of the United States Children's Bureau, especially the *Dependent Series*.

dren, who start life with a handicap which they are not usually able to overcome. It has been estimated that nearly one-half of all the inmates of public institutions are below the normal standard of mentality. Many years ago a careful study was made of a certain family—the Jukes—through seven generations. Among seven hundred persons in this family, beginning with degenerate great-grandparents, no fewer than two hundred became at some time or other recipients of public poor-relief. Incidentally, it may be mentioned that they also contributed far more than their due proportion to the prisons and insane asylums.[1]

(f) Miscellaneous Causes.

Then, again, some mentally and morally sound persons are born with physical handicaps or acquire these handicaps early in life; such, for instance, are the deaf-mutes, the blind, and the crippled. They are the ones whom we most commonly meet on the public streets begging or selling trinkets, or playing some musical instrument as an excuse for what is really begging. Intemperance, too, has figured largely among the causes of poverty during many centuries, and in the cities of Great Britain it is still a factor of large importance.[2] Shiftlessness, ignorance, bad habits and vice are all causes of varying importance, but in the main they are only immediate causes; the underlying causes are to be found in some mental, moral, or physical defect of the individual, or they arise from a poor environment. Shiftlessness seems to run in families, one generation after another; but it is also due in many instances to undernourishment or to disease.[3]

2. Social or Objective Causes.

The social or objective causes of poverty, in other words those due to the environment, are also numerous. Unemployment is one of them, and although there is always a sprinkling of unemployables among the unemployed, the spread of unemployment is usually due to circumstances which the individual workers cannot control. It is the outcome of serious imperfections in our industrial organization. Some trades are seasonal in character, affording much employment at one period of the

[1] See R. L. Dugdale, *The Jukes* (New York, 1877), especially the table on p. 27. This study has been supplemented by Estabrook's *The Jukes in 1915*, published by the Carnegie Institution of Washington.

[2] Among seven thousand cases investigated in the United States thirty years ago, about fifteen per cent owed their poverty to intemperance. Amos G. Warner, *American Charities* (3d edition, New York, 1919), p. 55.

[3] Some diseases such as hookworm or malaria are responsible for what appears to be inherited laziness.

(*a*) Unemployment.

year and very little at others. Industrial disturbances, moreover, are caused by war or rumors of war, or by changes in the methods of industry involving the introduction of new machinery, changes in fashion, changes in tariff schedules, temporary overproduction, or bad planning on the part of employers. Any or all of these things may throw industries out of adjustment for a time and cause unemployment. More poverty is due to unemployment than to any other environmental cause. If unemployment could be eliminated, a substantial fraction of the existing poverty would disappear.

(*b*) Underpayment of Labor.

The underpayment of labor, particularly the underpayment of women and children in industry, also contributes to the extension of poverty. Underpayment means that the workers and their families are unable to maintain their normal strength; they are unable to save anything for use in case of sickness or old age, and hence have to fall back upon the agencies of private or public assistance whenever misfortune comes. It is a common belief that wages depend largely upon individual ability and that only the incompetent are underpaid. The fact is, however, that with the great mass of low-paid labor the productivity of the individual worker has little relation to the rate. If labor is abundant, the minimum wage will usually be low, unless it is fixed by law or by the action of labor organizations, and this irrespective of what the individual wage-earner produces. The lower the grade of labor the more immobile it is, the harder to move from one locality to another, or from one vocation to another. It is upon this class, therefore, that the brunt of the burden falls whenever the labor market becomes overstocked.

(*c*) Other Social Causes.

Unsanitary conditions of living, bad housing, and over-crowding are causes of poverty—they are social causes because society creates such conditions and permits them to continue. Unsanitary conditions lead to illness, and illness results in unemployment. But they are also, in a sense, the effects of poverty; they are conditions of life to which, under our present social and economic organization the poor are compelled to submit by reason of their poverty.[1] For this reason, too, all municipal

[1] Poverty courses in a circle. Its effects, paradoxical though this proposition may sound, are often its causes. Poverty makes the worker less efficient; lower efficiency keeps him poor. Ignorance and immorality are the results of poverty as well as its causes. We say that bad housing and defective sanitation are causes of poverty in that they lower both the physi-

misgovernment and corruption is a contributing cause of poverty. Waste and peculation of the public funds, inefficiency in public office, high taxes, extravagant borrowing,—they all come with redoubled weight upon the poor. It is a rule with few exceptions that the actual burden which is represented by the high cost of government falls most heavily on the shoulders of those who are least able to bear it.[1]

(*d*) Relation of the Educational System to Poverty.

Defective educational systems have been productive of more poverty than people realize. Poverty flourishes wherever the percentage of illiterates is high. Compulsory public education is one of the greatest measures for the prevention of poverty that the world has ever devised. While the system of public education in the United States is exceedingly efficient on the whole, it is nevertheless true that many thousands of children are growing up without enough education to ensure them a fair chance of success in life. Undue attention to the so-termed cultural studies and inadequate attention to vocational education have also contributed to the increase of poverty. The first duty of an educational system is to impart creative capacity.

(*e*) Does Unrestricted Immigration Promote Poverty?

Some would include a too-lenient immigration policy among the causes of poverty in America. Until recent years aliens were permitted to come in almost unrestricted numbers; they concentrated, for the most part, in large cities; they contributed to overcrowding and by their competition for labor forced down the level of wages in unskilled employments. Large numbers of immigrants, attracted by high wages when industrial conditions were brisk, have found themselves without resources when depression came and have become dependent upon the sources of public or private relief.

The Public Attitude Toward Poverty and Its Relief.

The early literature of every race contains many references to poverty and to the duty of ameliorating it. For many centuries poverty was looked upon as the result of sin, unworthiness, and human perversity,— the outcome of purely individual causes which were likely to be operative so long as human nature remained unchanged. It was taken for granted that the poor

cal and moral stamina of the people, but it is just as correct to say that poverty compels men, women, and children to live where the housing and sanitary conditions are bad. It is very difficult to put the causes and effects of poverty in sequence.

[1] *Report of the Massachusetts Commission on the Cost of Living* (1910), p. 227.

would be with us always; that poverty could not be prevented by any action on the part of society, and hence that the only thing to do was to punish the shiftless while succoring those whose predicament seemed due to misfortune. The measures for the care of the poor taken by the governments of various European cities and by many American communities until comparatively modern times were based upon this attitude. Those who could work, and would not, were branded as vagrants and put in jail. They were flogged, set in the stocks or pillory, dragged through the streets at the tail of a cart, or ducked in a neighboring pond.[1] Those, on the other hand, who owed their plight to sickness, accident, or old age were taken into hospitals, infirmaries, almshouses, or workhouses. The people were everywhere encouraged to give alms to the poor, but the prevention of poverty by organized social action received little or no attention.[2]

1. Earlier Attitudes.

2. The Modern Trend in Poor Relief

The public attitude, especially the attitude of the more enlightened part of the public, has now changed or is changing. From a careful study of the problem in all its phases the conclusion is now being reached that poverty is no more an essential concomitant of civilized life than were piracy, slavery, bubonic plague, or universal drunkenness in years now long gone by. Poverty can be eradicated as these things have been, although not by any means so easily. The individual causes of poverty, of course, will always be at work. Old age will continue to come upon mankind, and no race of mortals can hope to get rid of sickness and accidents entirely. But society can at least bring it about that old age, illness, accident, unemployment, ignorance, and misgovernment no longer bring inevitable poverty in their train. Attention is now being given, therefore, to measures of prevention; and mere almsgiving has come to be recognized as a palliative, not a remedy. Even as a makeshift the giving of charity has its defects. The habit of indiscriminate benevolence encourages pauperism. It weakens the incentive to self-support and deadens the self-respect of the recipient. Save in

[1] See, for example, the famous "Act for the Punishment of Rogues, Vagabonds and Sturdy Beggars" passed by the English Parliament in the reign of Elizabeth (39-40 Elizabeth, Chap. IV), printed in G. W. Prothero, *Statutes and Constitutional Documents* (Oxford, 1894), pp. 100-102.

[2] "Thou gavest bread to the hungry, but better were it that none hungered and thou hadst none to give him." *Saint Augustine.*

cases of extreme distress the bestowal of what we call poor relief does about as much harm as good. Almsgiving will no more eliminate poverty than medicine will eradicate disease. But since neither disease nor poverty can be extirpated in a single generation it becomes necessary to continue the work of alleviation both as regards the sick and the poor.

Indoor Relief.

Public provision for the care of the poor takes one or another of two forms, known respectively as indoor and outdoor relief. By indoor relief is meant the care of the poor in institutions maintained by the state, county or city. There was a time when paupers of all types were herded together into the same poorhouse, but it is now the policy to provide, so far as practicable, different public institutions for the sick, the mentally defective, the aged, and the young. Hence, in many cities, both European and American, there are hospitals for chronic cases, institutions for the feeble-minded, homes for the aged, parental schools for the care of orphans, and schools for the blind. In Europe such eleemosynary establishments have been well managed, on the whole, but in the United States the administration of these institutions has left much to be desired. Politicians and incompetents have often been placed in charge of them by the city or the state, inferior food and other supplies have been bought at high prices from friends of the superintendent or other head of the institution; untrained attendants have made life miserable for the inmates. In no field of administration has the average American city made a less praiseworthy record than in this. The city home, or city farm, or city house of refuge—call it what you may—is usually the most depressing spot in the community. During the last twenty years there has been a noticeable improvement in the administration of municipal almshouses, but conditions are still a long way from what they ought to be. Much of the trouble is due to the sinister influence of patronage and the spoils system upon the administration of public charity.

Outdoor Relief.

Outdoor relief is the term applied to the other method of alleviating poverty. By outdoor relief is meant the giving of assistance to the poor in their own homes, either in the form of food and fuel or in the form of regular allowances from the public treasury. The great English Poor Law of Elizabeth's reign (1601) was based upon this idea of giving each pauper

a weekly grant from the poor funds which, in turn, were raised by taxation. But the abuses of this plan became so great that the law was ultimately repealed. During recent years the English government has been endeavoring to cope with the problem by a scheme of social insurance. In the cities of the United States the giving of outdoor relief, under the supervision of officials commonly known as overseers of the poor, has long been an established practice and still continues to be. Some of the larger cities, however, have virtually abandoned the giving of outdoor relief from the municipal treasury, having found the system impossible to protect against abuse. Even where the practice has not been discontinued it is the tendency to depend upon private organizations for most of the outdoor relief, the city authorities taking care of the chronic and hopeless cases only. These private organizations are often connected with the churches; but sometimes they are entirely non-sectarian, made up of generous men and women who give their time and money to the work of alleviating poverty. The latter appear to be making the largest use of modern methods. A private charitable organization may receive a subsidy from the public treasury, or its income may be derived from legacies, endowments, and voluntary contributions.

The Defects of the American Plan.

Private outdoor relief has often led to indiscriminate almsgiving, thus lending encouragement to wastefulness and imposture. People who ought to be earning an honest living have applied to various organizations for help and have obtained it from several of them. A person who is deserving of assistance, on the other hand, has found difficulty in discovering the right organization, the one which is most likely to be interested in him. In every large city there is, as a rule, some private charitable organization able and willing to take care of any urgent case that may arise, but so long as all do their work independently the burden is very unequally distributed. To make the work more effective and to prevent overlapping of effort, central bodies known as Charity Organization Societies, or Associated Charities, or United Charities, or Family Welfare Societies have been formed in many of the larger American communities.[1] One of their functions is to serve as a clearing house of information concerning all appli-

[1] Frank D. Watson, *The Charity Organization Movement in the United States* (New York, 1922).

cants for assistance. This is ordinarily done through a registration bureau, confidential exchange, or social service exchange.

The Machinery of Municipal Poor Relief:

Among the cities of Europe and America there is a great variation in the administrative machinery by which the public distribution of poor relief is handled. In France each large municipality maintains a *bureau de bienfaisance*, which consists of the mayor, two members of the city council, and four citizens appointed by the prefect. Funds for the use of this bureau are provided from the proceeds of certain taxes. In every German city there is an *Armen-Deputation*, or poor relief commission, made up of officials and citizens named by the burgomaster. As will be explained presently, an elaborate system of public relief is maintained under the supervision of this body. The English plan of poor relief administration is difficult to explain in a few sentences. Poor relief is not one of the functions of the regular borough authorities. The country is divided into poor law unions or districts in each of which there is an elective board of guardians. These guardians have power to levy a tax, or "rate" as it is called, on all assessable property within their district or union.[1] The work of the guardians is performed under the supervision of the Ministry of Health.

1. In Europe.

2. In America.

In the United States there is no uniform plan of local poor-relief administration. In many of the smaller communities (particularly in the Eastern and Middle States), and in some of the larger ones as well, there is an elective or appointive board, frequently known as the board of overseers of the poor, or the board of public welfare. Members of these boards are usually unpaid. In many other cities, especially in the West and South, the department of poor relief or charities has a single commissioner at its head. The drift seems to be in favor of this latter plan, particularly in the large cities where the annual expenditures for poor relief have now reached a formidable sum. In these cities the task of disbursing the funds in a humane but economical way calls for the exercise of great skill and tactfulness.

[1] The "overseers of the poor" in England have nothing to do with the actual administration of relief. They merely assess property for the levying of the rate which the guardians determine. The nomenclature of English poor relief administration is thus very confusing to outsiders. See J. J. Clarke, *Social Administration, Including the Poor Laws* (London, 1922).

The Prevention of Poverty.

The intelligent philanthropist of today is more concerned with the prevention than with the relief of poverty, and rightly so, for various measures of prevention have been shown to be practicable. The experience of some European cities, notably those of Germany before the war, indicates that by means of social insurance and other positive agencies of social amelioration a substantial proportion of the existing poverty can be eradicated. These preventive measures are of too great importance to be passed over with a mere mention. A few of them have already been adopted in the United States; others are very likely to be adopted in the course of time.

Proposed Measures for the Abolition of Poverty.

It has been mentioned that sickness, accident, old age, and unemployment are among the chief causes of poverty. These things cannot themselves be altogether prevented, but their effects can be guarded against. Sickness and accident can be covered by insurance and in various countries this is now being done on a comprehensive scale. Workmen's compensation laws in many of the states now virtually compel employers to make provision for the support of their workers in case of accident. Although the municipal authorities do not, as a rule, have anything to do with the administration of these measures the subject comes so close to the work of the local poor-relief authorities that it merits a few words of explanation.

1. Industrial Accident Insurance.

For centuries, in all countries, the law treated contracts of employment as purely personal agreements between the employer and his workers, agreements in which the public had no direct interest. Consequently an employer was not liable to pay compensation to an injured workman unless the employer himself could be shown to have been positively at fault or culpably negligent. He was not obliged to grant compensation when the accident was due to the employee's own fault or negligence or to the fault or negligence of a fellow-employee. And in any event the only means by which an injured workman could get compensation, when the employer declined to give it, was by bringing a suit in the courts—an expensive and uncertain method. Now whatever the justice or injustice of this situation, as respects the employer and his men, one thing became clearly apparent, namely, that the public was being saddled with a heavy burden by reason of the results. Large numbers of the workers were disabled every year by industrial accidents,

and most of these found themselves without any means of support for themselves and their families. Thereupon they turned to the public authorities for assistance. It availed little to say that they were themselves to blame for their plight, or that some fellow-employee was to blame. Placing the blame did not save the worker or his family from pauperism. Placing the blame did not relieve the community of its obligation to keep human beings from extreme distress and misery. Industry furnished the victims; the community had to take care of them.

Its Social Justification.

But the public, if it must bear the burden of accidents in industry, may better do it first than last. When machines break down, the employer pays the cost of replacing or repairing them. He merely adds the expense to his cost of production and in this way passes it to the public in the price of his products. But men break down as well as machines. Every great industry has its quota of human accidents per year. No matter how well the machinery is guarded or how careful the workmen may be, some accidents seem to be inevitable. An enormous amount of attention has been given to making railroad-operation safe by means of automatic couplers, air-brakes, electric signals, interlocking switches, and so on; the railroads have conducted "safety first" campaigns and other educational propaganda; yet thousands are killed or injured on American railroads every year. Why not, therefore, require the employer, and through him, the consumers of the finished products, to pay for what is an inevitable item in the cost of transportation and manufacture? The answer to this question is that it should be done, and in many of the states it is now being done, through the medium of laws which require the employer to insure his workmen either with an approved insurance company or with a state department of insurance. In case of injury the worker gets a certain allowance per week for a stated period.[1]

2. Health Insurance.

Illness is a greater factor in poverty than any other single cause, being involved in about one-third of all the cases which seek charitable assistance. If this factor could be eliminated, therefore, it would enormously lessen the strain on both public

[1] The detailed provisions differ from state to state. A full discussion may be found in D. H. Van Doren, *Workmen's Compensation and Insurance* (New York, 1918). See also the *Standards for Workmen's Compensation Laws*, issued by the American Association for Labor Legislation (7th edition, 1921).

and private sources of relief.[1] For many years it has been the custom of many labor unions and fraternal organizations to pay sick benefits to their members. Germany was the first country to make insurance against illness a public enterprise; the various measures relating to the subject being improved and unified in the Insurance Consolidation Act of 1911. Insurance is compulsory and the cost is borne two-thirds by the employer and one-third by the workmen. The administration of the funds is in the hands of local committees representing both employers and employed. In Great Britain a plan of compulsory health insurance was adopted by Parliament in the same year, with provision for joint contributions by employers and employed. Under the British plan of health insurance, however, the administration is placed on a national basis with the Ministry of Health as the controlling governmental agency. Provision for general health insurance has also been made in other European countries, notably in Norway and Czechoslovakia. There is little doubt that the experience of these European countries, if it proves successful, will have an influence in the United States.[2]

**3. Old Age Pensions.**

A good deal of poverty comes with the infirmities of age. Most wage-earners, especially in the cities, do not save enough to provide for themselves in later years. The large community provides many temptations for the spending of every penny that comes in.[3] The result is that after long years of toil they are

[1] A full discussion of the economic results of illness may be found in the *Report of the Illinois Health Insurance Commission* (Springfield, 1919). See also the comments on this report in Gerald Morgan, *The Public Relief of Sickness* (New York, 1922), pp. 2-7.

[2] In 1914 the American Association for Labor Legislation drew up and adopted a plan of health insurance for use in the United States. Thus far, however, it has nowhere been enacted although the proposal has been introduced into several of the state legislatures. For an explanation of the plan see the *American Labor Legislation Review*, December, 1914, pp. 595-596, and for a discussion of the various difficulties involved, see the reports of health insurance commissions in Massachusetts (1918), Wisconsin (1919), Pennsylvania (1919), and Ohio (1919).

[3] Whether a wage-earner saves something, or spends the whole of his weekly pay, depends largely upon his wife when he has one. It is an almost invariable practice, especially among wage-earners of foreign birth or extraction, to regard the female head of the household as the family treasurer. The pay envelopes are handed to her intact each Saturday and she gives to each wage-earning member of the family (including the husband) a stated sum. The rest she keeps, and if she is thrifty there will soon be a family bank account.

dependent upon their children, or must eke out a precarious existence by doing odd jobs, or must be supported by the public poor-relief funds. In several European countries, including Great Britain, France, Germany, Belgium, and Denmark, systems of old-age pensions for workers have been established. Every wage-earner who reaches a stated age and has fulfilled certain qualifications as to residence and service, is entitled to a weekly allowance from the public treasury. About a dozen years ago a Massachusetts state commission which investigated the subject reported that there were, at that time in the United States, approximately 1,250,000 persons over sixty-five years of age dependent on public or private charity to the amount of a quarter of a billion dollars annually.[1] Both the number and the cost are undoubtedly much greater today.[2] The United States is today the only great industrial nation which has not attempted a permanent solution of this problem of old age and dependency. Sooner or later old age pensions will probably be established in this country; the only question is whether, when they come, the wage-earner will be required to pay a regular contribution during the years in which he is able to do full work or whether the taxpayers will have to bear the entire cost.

4. The Lessening of Unemployment.

As to the problem of providing a permanent remedy for that portion of poverty which is caused by irregularity of employment; it is perhaps the most difficult of all. The number of unemployed workers in the cities runs up and down like the temperature of a New England autumn. A careful canvass of about 400,000 families in fifteen American cities, made during the spring of 1915, showed about 12 per cent of the wage earners idle and more than 16 per cent working part time.[3] In 1919-1920, on the other hand, the number of unemployed dwindled to a relatively small figure. Unemployment not only deprives the worker of his income but it impairs his efficiency, worries him and undermines his sense of responsibility. It tends to break down family ties and home life. While it is not the sole

[1] Massachusetts Commission on Old Age Pensions, Annuities, and Insurance, *Report* (Boston, 1910).

[2] See the *Report of the Pennsylvania Commission on Old Age Pensions* (Harrisburg, 1919).

[3] United States Bureau of Labor Statistics, *Bulletin*, No. 172 (1915), p. 7.

cause of social and economic radicalism it undoubtedly does much to promote both.

Various Methods of Doing This.

Various plans for lessening the evils of unemployment have been suggested, but they all present practical difficulties of one sort or another. Better vocational training would reduce the number of unskilled workers; and it is the unskilled who contribute most largely to the ranks of the unemployed. The establishment of public employment offices has done something to bring jobless men and manless jobs together.[1] It has been suggested that we ought to have a more careful planning of state and municipal improvements so that the heaviest demand for labor on public works would come at times when unemployment is most prevalent. As matters now stand, it is the custom of the public authorities to provide "emergency work" whenever the industrial depressions come. More than a hundred American cities took on additional employees for work of this nature during the unemployment crisis of 1914-1915 and many British cities did the same during the years 1920-1922. But the experience of these cities did not prove to be altogether gratifying. Poor work, costly work, needless work, and political favoritism in the distribution of work, were too much in evidence. Some of these evils could be avoided, no doubt, if the enterprises were carefully planned in advance and not left as last-minute measures. Much would also be accomplished by the regularization of industrial production and by some scheme of co-operation among employers which would enable workers to be transferred from one industry to another, although the difficulty of carrying out this transfer on a large scale is quite apparent.

Municipal Labor Colonies.

German, Swiss and Dutch cities have tried the plan of establishing labor colonies for the unemployed, but with indifferent success. Most of the applicants for relief have turned out to be ex-convicts, tramps, and unemployables. Some American states and cities maintain farm colonies for the employment of persons who are convicted of vagrancy. A few cities also maintain wood-yards and municipal lodging houses where men out of work are given temporary shelter. All this is supple-

[1] Public employment offices are not so numerous or so efficient in American cities as in those of Europe; but they have made a great advance in recent years. United States Bureau of Labor Statistics, *Bulletin No. 241, Public Employment Offices in the United States* (Washington, 1918).

mented by the work of various philanthropic organizations, such as the Salvation Army and the Volunteers of America. In times of acute business depression, when the unemployed become most numerous, it has been the practice to open soup-kitchens or places where single meals are served at a nominal price or even without any charge at all. The trouble with enterprises of this sort is that they usually draw the jobless to whichever city provides the largest amount of gratuitous food and shelter.

Compulsory Unemployment Insurance in Europe.

These various efforts go no appreciable distance toward the alleviation of the poverty and distress which results from unemployment. Some better approach to this problem must be found, and in this connection the experience of European states and cities with unemployment insurance deserves a word. Compulsory unemployment insurance had its first trial in the Swiss city of St. Gall (1894), but after two years the plan was abandoned. More recently, however, it has been revived and put into operation by the governments of Great Britain and Italy. In 1911 the British parliament provided by law for a scheme of compulsory unemployment insurance in certain trades and industries. By subsequent amendments (1920) the plan has been extended to include practically all wage-earners except farm laborers, domestic servants, and casual workers. The employer, the wage-earner, and the public treasury all contribute to the insurance fund.[1] Various safeguards are provided to prevent shirkers and malingerers from abusing the scheme. The administration of the plan is in the hands of the municipal authorities under the supervision of the Ministry of Labor. It is interesting to note, by the way, that the British trade unions opposed the scheme on the ground that it was a measure of charity and not a plan for diminishing unemployment.[2] The opportunity for an abuse of the system on the part of "work-shy" men is only too obvious, moreover, and great difficulty

[1] The employer contributes fourpence per week; each employee contributes a like amount. The public treasury's share is twopence per week. Men who are willing and able to work but unable to find employment receive fifteen shillings per week; women receive twelve shillings; persons under eighteen years of age receive half these amounts. See *Monthly Labor Review*, U. S. Bureau of Labor Statistics, September, 1920, pp. 165-169.

[2] The Italian Unemployment Insurance Law went into effect on January 1, 1920. It encountered less opposition.

has been experienced in guarding the system against flagrant imposture.

The Situation in American Cities.

Compulsory unemployment insurance has not yet been established in any American community. But many large industrial concerns have adopted the practice of setting aside each week a certain percentage of their total pay rolls as an unemployment reserve. Then, whenever workers are temporarily out of employment through the slackening of business and not through any fault of their own, a certain weekly wage is paid to them from this reserve. The amount paid and the conditions of payment vary among those industries. Most labor organizations also provide a scheme of unemployment benefits for their own members. These insurance plans, whether compulsory or optional, do not in any way diminish the amount of unemployment; they merely ameliorate the results of it when it comes. When employers have to pay their share of unemployment benefits, however, they are at greater pains to keep their men steadily employed. This stabilization of industry is the only effective and permanent remedy for unemployment and hence for the conditions of poverty caused by unemployment. To secure this stabilization will require considerable improvement in the existing system of industrial planning and probably some important changes in the existing methods of industrial management.

Other Measures for the Elimination of Poverty.

Apart from social insurance against the results of accident, illness, old age, and unemployment there are various measures which the public authorities may utilize effectively in reducing the burden upon the municipal appropriations for poor relief. The enforcement of laws relating to compulsory education will reduce illiteracy and thus decrease the class from which poverty secures most of its recruits. Vocational education and special training for the handicapped will help to reduce the number of unemployables. The existing limitations upon immigration, if they are continued, will render more easy the maintenance of American standards of living among those who toil with their hands. By the segregation of degenerates in public institutions the propagation of degeneracy can be prevented. Overcrowding and unsanitary conditions of living can be in large part eliminated by modern city planning and good housing laws. The prohibition of the liquor traffic has already resulted in decreasing the number of applicants for poor relief. And all positive efforts to encour-

age thrift among the people will contribute their share toward keeping the worker from submergence.

The Danger of Distributing the Burden Inequitably.

It is doubtful, of course, whether social insurance and all these other measures put together will ever avail to wipe poverty from the cities. Still, if all the remedies were earnestly applied, the amount of poverty in the United States would certainly be very much reduced. There is always a danger, of course, that measures designed to promote the well-being of the poor may overreach themselves, and may merely result in placing additional burdens upon those who are none too far above the poverty line. Attempts to narrow the gulf between the rich and the poor by the levying of discriminating taxes on the well-to-do may only augment, in the long run, the difficulty of the low-paid wage-earner in keeping his head above water. The cost of all social effort must in the long run be paid out of production, which is another way of saying that it reflects itself in the general level of prices. Placing the immediate expense on the rich in the form of super-taxes does not alter that fundamental fact. If poverty is ever to be greatly reduced, or entirely eliminated, it will be by distributing the cost of the social effort fairly —upon all sections and all classes of the community. It will not be achieved by resort to any zealot's nostrum, by taxing one thing instead of another or one class instead of another. The millennium, if it could be hastened by taxing this instead of that, would have arrived long ago.[1] It is customary for sociologists to speak of poverty as a "social disease" and to assure us that like any other disease it can be eradicated. Quite true. But disease is not extirpated by striking at the heads of healthy people in order that they may have less advantage over the sick. Neither will the plague of poverty be driven from any land by measures which single out the well-to-do for hostile action because they happen to be better off than the poor. The poor

[1] As an illustration of the child-like faith which reformers have sometimes placed in new schemes of taxation as a solution for the oldest and most stubborn of human problems, the following passage from one of the most widely-read books of a generation ago may serve. "I therefore propose, as the simple yet sovereign remedy which will raise wages, increase the earnings of capital, extirpate pauperism, abolish poverty, give remuneration to whoever wishes it, afford free scope to human powers, lessen crime, elevate morals and taste and intelligence, purify government and carry civilization to yet nobler heights, is—to appropriate rent by taxation." Henry George, *Progress and Poverty* (New York, 1880), Book viii, Ch. ii.

can never be made rich by the expedient of making the rich poor.

The Need for an Improved Administration of Existing Measures.

In the field of public poor relief and in the prevention of poverty, as much depends upon the administrators as upon the laws. There has been a notion in American cities that a soft heart is all that is needed to make a competent overseer of the poor or commissioner of public charity. But with a soft heart there too often goes a soft head. Millions have been spent, both from private and public charitable funds, in ways that are ill-judged and wasteful. Measures of prevention, wise enough in themselves, have been injudiciously applied by inexpert hands. Public opinion in America rebels against the organization of poor relief on any "efficiency" basis, and insists that it shall be redolent of humanitarianism even at the sacrifice of common sense. It is said that "he gives twice who gives quickly," but it would be nearer the truth to say that "he who gives quickly gives foolishly." By politicians and demagogues it is held a reproach to organized charity that time and money are spent in investigating applications for poor relief, and that doles are not handed over the counter to everyone who comes with a tearful countenance and a tale of woe. No system of municipal poor relief can be, or ought to be, reduced to a strictly business basis, but between over-discriminate and indiscriminate almsgiving there must be some appropriate halting place.

"Efficiency" in Poor Relief Administration.

The German Plan.

Many years ago some of the larger cities of the German Empire inaugurated the plan of placing poor relief on the same plane of centralized efficiency as their other municipal departments. Under this plan, commonly known as the Elberfeld system, each city is divided into poor-relief precincts (*Stadtbezirke*) with a committee of unpaid citizens in charge of each. These committees, in turn, allot one sub-precinct to each of their members. In this way the official administration is brought very closely into contact with the people, for a sub-precinct usually contains fewer than one hundred inhabitants. On the other hand the work of the individual committeemen, and of the precinct committees, is strictly supervised by the city's central poor relief department. Indiscriminate private charity is frowned upon and the people are encouraged to assume with clear consciences that all the worthy poor will be taken care of by the public authorities. Each taxpayer contributes his share to the public poor-funds, and

there his humanitarian duty comes to an end. The citizen pays his assessment; the city officials do the rest. "The poor ye have with you always,"—but the tax collector only once a year.

The Contrast in America.

This method of caring for the poor has not commended itself to public opinion in other countries, more particularly in the United States. The public authorities in America have encouraged private charitable organization and effort; they have not sought to monopolize the field for themselves. The laws lend their aid in this direction by permitting charitable bodies to become incorporated easily, to enjoy immunity from taxation, and to be exempt from any strict governmental regulation. Private charity is popularly assumed to carry with it a large modicum of personal sympathy and to involve a smaller degree of humiliation to the recipient. So the states and municipalities have virtually said to all manner of philanthropists: "Go ahead in your own way, organize, raise money wherever you can, as much as you can, spend it as you please, the more you do the better we will like it." The result is that there are probably more active charitable organizations in the cities of the United States than in the cities of all other countries put together.[1]

Philanthropy and Waste.

It comes to pass, therefore, that public poor relief in the United States, whether administered by towns, counties or cities, covers only a small part of the field. The greater portion of the responsibility has been, and still is, left to private organizations. These organizations interlock, overlap, step on each other's toes, and jostle one another in ceaseless activity. Their quest for funds goes on incessantly, a dozen of them sometimes circularize the same individual within a single fortnight in urgent solicitation for their respective philanthropies. They have reduced the work of printing and mailing pathos to a science. But the waste of effort, stationery, and postage involved in this relentless and oft-repeated combing of the community for funds must be stupendous.[2]

[1] The *Boston Directory of Charitable and Beneficent Organizations*, for example, contains the names of more than a thousand organizations of which the larger proportion are charitable in purpose.

[2] As an experiment the author kept count of the circulars and form-letters asking for donations to various charities which reached him through the mails during the week ending December 2, 1922. There were eleven in all. Reckoning the cost of paper, envelopes, printing, addressing, and postage these requests must have cost the respective organizations at least ten cents apiece, an expenditure of $1.10 per week on a single individual, or nearly $60 per year.

A sizeable fraction of the money contributed for charity is thus expended in getting more money, and this, again, in a further quest for contributions. In some cities the endeavor has been made to inject a touch of efficiency into the situation by establishing a "community chest" or common fund. All organizations then join in one single annual canvass for subscriptions, each subscriber being permitted to designate a preference as to the use of his contribution. Out of the common chest every organization eventually receives its share. A single drive takes the place of many, with less expense, less effort, and more money in the end. But many professional charity executives do not like this plan, feeling that it restricts their freedom. Private charitable organizations are very suspicious of anything that looks like centralized control, even in embryo.

The "Community Chest" Plan.

To some extent the work of private charitable organizations in American cities have been brought under the supervision of the public authorities. In some states they are required to file statements of their receipts and expenditures. This requirement is designed to prevent the collection of money by organizations whose principal aim is the benefit of the individuals immediately concerned. It has become the practice of the Chamber of Commerce, in many cities, to maintain a bureau of investigation and to caution their members against giving donations, directly or indirectly, to any cause which has not received the endorsement of this bureau. In one large city (Los Angeles) this function has been taken over by a municipal social service commission.

Public Supervision of Private Philanthropy.

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# CHAPTER XXXVIII

## THE CITY SCHOOLS

The Growth of Public Education.

During a large part of the world's history the masses of the people were afforded no opportunity for even the elements of education. This was true from the fall of the Roman empire to the close of the Middle Ages and indeed in most countries until the beginning of the nineteenth century. In the mediæval cities not one person in a thousand could read or write. Even kings on the throne were illiterate. There is a well known picture of King John, a crown on his head and a quill pen in his hand, signing the Great Charter. It embodies a historical absurdity because John Plantagenet could not write a single word, not even his own name. No copy of Magna Carta or any other document has ever been found with his signature on it. The only persons who could either read or write in the thirteenth century were those connected with the Church, together with a very few fortunate laymen who were educated by them. Even after the invention of printing the progress of general education was slow and not until the nineteenth century did the desirability of providing free schools for the whole people come to be widely recognized.

In the United States.

In the United States the beginnings of free education go back to colonial days. As early as 1647 the colony of Massachusetts Bay provided that a schoolmaster should be appointed and paid out of the taxes in every town of more than fifty families and that this schoolmaster should teach all the children "to wryte and reade"; but this example was not followed by all the other colonies. It has been estimated that more than half the population remained illiterate. The proportion among women was especially large because even less provision was made for girls than for boys. Of itself the Revolution did not change this situation. During the debates in the constitutional convention of 1787 no mention was made of public education although many other gov-

ernmental functions, now regarded as of far less importance, were discussed at length. Fourteen states adopted constitutions between 1775 and 1800, but in six of these documents there is not a word relating to public schools or education. Private and church schools continued to do the work. Even when elementary schools were established under public auspices it was customary to charge fees for tuition. Since the Civil War, however, the policy of making education not only free but compulsory has gradually been adopted in virtually every part of the United States. The total enrolment in the public schools is now more than twenty-three millions, and the cost of educating the vast array of young citizens is considerably over a billion dollars a year. The states provide the general laws relating to public education, but the burden of providing and maintaining the schools has devolved upon the municipalities.

The Purpose and Value of Education:

Why is education a public function? It is because the aims of education come close to the public interest. The city school, in the first place, endeavors to give young citizens such training as will enable them to earn a living.[1] This is a primary and fundamental purpose because earning a living is the most insistent problem that most people have to solve. But it is not the only purpose of education; a city school system would be very defective if it confined itself to this alone. The second purpose of education is to develop the personality of the individual, his own resources and mentality, so that he may enjoy those durable satisfactions of life which are not directly connected with the work of earning a livelihood. The enjoyment which men and women derive from life is not entirely dependent upon the amount of their incomes; one need only look about the community to realize that this is so. Even a large fortune does not of itself guarantee happiness. To live a full and contented life it is necessary to know what is going on in the world, to appreciate its significance, and to understand the many things which, to the uneducated man or woman, are hidden mysteries. Education helps an individual to know himself, to know what is going on around him, to understand the motives which govern the actions of his fellow-men, and to adjust himself to the environment in

1. Economic.

2. Individual.

3. Social.

[1] In naming the purposes of education, first, second, and third, there is no intent to imply that this is their order of importance. The social purpose of education is quite as important as the economic, perhaps more important.

which he lives. Knowledge is power in the hands of everyone who possesses it. The third purpose of education, the social purpose, is perhaps the most important of the three. Education aims to train the individual so that he may better serve his fellow-men. Democracy, as has been said, rests upon the intelligence of the people. A democracy exacts from its citizens a type of service which education alone can teach them to give. In its own interest, therefore, it is the function of the community to see that everyone is not only enabled but encouraged to become personally efficient, able to make his own way in the world, and capable of pulling his own weight in that many-oared boat which carries the progress of society along. That is why education has been made both free and compulsory.

**The Control and Management of City Schools:**

**1. In France.**

In France elementary education has been free and compulsory since 1882. The department, not the commune, is the administrative unit for schools. The prefect appoints the teachers and other school officials on the recommendation of his educational advisors; a departmental council has general charge of school administration. Every commune is required to provide school buildings, but the funds necessary for the payment of school teachers are provided by the national government. Each department maintains institutions for the training of teachers and provides the corps of school inspectors. There are no local school boards in the American sense, but in each city there is a local school commission, under the chairmanship of the mayor, which has certain powers in relation to school attendance. Education in France is not a municipal function. It is a departmental (provincial) and national enterprise under the general control of the Ministry of Public Instruction. Secondary education, moreover, as distinguished from elementary education is neither free nor compulsory in France.

**2. In England.**

In England the policy of compulsory school attendance was inaugurated in 1870 but the present school system rests upon the the Education Act of 1902, considerably amended by the Education Acts of 1918 and 1921. This act abolished the elective school boards in boroughs and entrusted the management of the public schools to the borough councils. Each borough council appoints an education committee to which it may delegate all its powers in relation to school administration except the levying of taxes and the borrowing of money. The council also appoints, for the

immediate management of the elementary public schools,[1] a board of managers, usually including ten members, but the control of school policy remains with the council or its committee. This work of the local education authority, however, is performed under certain general regulations promulgated by the Board of Education, a department of the national government.

3. In America.

As the American constitution gives the federal government no power to control education, the responsibility rests with the several states. Every state has established a system of free, public education, but the methods of control and management differ greatly from one state to another. Some states have centralized the management of the schools in the hands of the state authorities; others leave this very largely to the school officials of the counties, cities, or districts. Everywhere there is a state department of education, with a board or a superintendent in charge, nearly all the states having both. The local educational unit may be the city, town or township, school district, or (especially in the southern states) the county. A school board, usually elected by the people, erects the school buildings, chooses a school superintendent, appoints principals and teachers (on the recommendation of the superintendent), and appropriates money for the support of the schools.[2]

The Municipal School Board in America: How Its Members Are Chosen.

Municipal school boards or boards of education in American cities are composed of a varying number of members. A generation ago these boards were large bodies, but they have now been greatly cut down. The largest board today is that of Providence with a membership of thirty-three. Wheeling (W. Va.) has a board of twenty-one members elected by wards. The Chicago board has eleven members, and that of Philadelphia fifteen; but the board of education in New York city is now composed of seven members only. The process of reducing the size of school boards has been going on all over the country during the past

[1] They are called "provided" schools, that is, their funds are wholly provided from the public treasury. The "non-provided" schools, on the other hand, receive all or part of their income from non-public sources.

[2] This board is known by a variety of names, such as school committee, board of education, school trustees, board of school directors, school commissioners, and so on. The term board of education is perhaps the most common in all sections of the country except New England. G. W. Frazier, *The Control of City School Finances* (New York, 1923), gives data concerning the school boards of one hundred and sixty-nine American cities.

twenty-five years.[1] The members are sometimes elected by wards, but more commonly by the voters of the city or school district at large; in a few instances (notably in New York, in Chicago, and in San Francisco) they are appointed by the mayor. The terms range from two to five years, and as a rule members of the board receive no salaries.

**The Ward System of Election.**

The plan of electing members of school boards by wards, on a party ticket, harks back to the heyday of the spoils system when the appointment of teachers and the purchase of school supplies were regarded as political patronage to be fairly distributed throughout all sections of the city. It is now being generally abandoned, and the change has usually resulted advantageously. Under the plan of election at large the citizens look at questions of school policy in a broader way; better men and women are chosen to the school board; they become interested in the school system as a whole and not in parts of it, and a great deal of sectional bickering has been eliminated. It has not taken school administration entirely out of partisan politics but it has at least made partisanship a less important factor in school elections.

**School Boards and Politics.**

Most people are agreed on the proposition that party politics should have no place in the management of the public schools. There may be justification for party politics in lawmaking bodies; but in school boards there is none. There is an efficient way of managing the schools and an inefficient way; but there is no Republican way or Democratic way. In spite of this self-evident truth, however, the school elections in many communities are contested upon party lines. Men and women are nominated and elected, very often, because they belong to one or the other political party, not because they have soundness of judgment or a deep interest in school affairs. But public sentiment in this matter is gradually changing. In some cities the school board elections have become entirely non-partisan; party designations have been taken off the ballots, and the party affiliations of the candidates count for nothing. In others these affiliations are steadily counting for less and less. It is a hopeful sign. The divorce of the schools from party politics can be facilitated, as experience in

[1] Some of these reductions are as follows: Detroit from 18 to 11; Boston from 24 to 5; St. Louis from 24 to 12; Cincinnati from 31 to 7; Scranton 22 to 9; Syracuse 19 to 7; Columbus 15 to 5; Louisville 20 to 5; Providence 33 to 16; New Orleans 17 to 5; Pittsburgh 30 to 15; Baltimore 29 to 9.

some cities has shown, by holding the school board election on a different date from the regular municipal polling. Taking the schools out of politics means that the taxpayers get greater value for the money which is spent upon public education, that questions of school policy are decided upon their merits, and that every pupil gets the benefit of better schools, better teachers, and better educational methods.

**Should School Boards Be Elected or Appointed?**

Popular election is the most common method of choosing the members of school boards in the United States, and it is likely to remain so; but some cities have made their school boards appointive. They have done this for three reasons,—first, because it facilitates the fair representation of all classes; second, because it enables the choice to be made without reference to party allegiance; and third, because it enables the city to secure the services of men and women who have a special interest in educational matters. The appointive method, with the right sort of mayor at the helm, is capable of great possibilities in all three directions, but these possibilities are not often realized. Mayors have not, as a rule, sought out appointees with special aptitudes regardless of their party allegiance. They have, more often, given places on the school board to their personal and political friends. Issues of school policy have been dragged into the mayoralty campaigns. Appointive boards have not been of noticeably better quality than those elected by the people, neither have they been more representative of the various shades of educational opinion among the people. This can be illustrated by comparing the experience of New York, Chicago, and San Francisco [1] with that of Boston, St. Louis, and Detroit. The fact that service on school boards is unpaid does not deter the spoilsman from pressing the mayor for appointment. He is interested in the buying of land for school and playground sites, in the contracts for the erection and repair of school buildings, in the purchasing of school supplies, and even in the hiring of janitors. All of these things afford some occasion for the distribution of patronage.

This suggests the question whether members of school

[1] San Francisco, in 1921, changed its method of selection. The mayor now *nominates* the members of the school board. This he must do at least sixty days before the regular city election. Then, at the election, the people vote to approve or reject his nominations. This combination of appointment and election is something of a novelty and its results will be watched with interest.

Should School Boards Be Paid?

boards should receive salaries like city councilmen and other public representatives. The general practice is to make no provision for paying members of school boards, but in large communities their work has greatly expanded during recent years. Between regular meetings, committee meetings, and conferences, this work now takes up a large portion of each member's time. In many cities the members of the school board give more days to public service work than do the members of the city council, and for this reason it is plausible to urge that they should be paid as much or more. The truth is, however, that members of school boards have been unnecessarily piling duties upon themselves. They could save a good deal of their own time, with no detriment to the best interests of school administration, by giving more discretion to the superintendent and reserving fewer details for their own decision. The essential functions of the school board, even in a great city, can be performed in very few hours per week. Boards of directors in large business concerns meet only once a month; they could readily find excuse for meeting every day if they set out to deal with the administrative details which properly belong to the general manager and his subordinates. The superintendent of schools is, or ought to be, in the position of a general manager. The function of the school board is to reflect in a broad and catholic spirit the judgment and sense of the community in school matters, not to assume the duties of actual administration. The policy of paying the members of school boards is likely to increase their intermeddling with routine matters, and what most school boards need is an incentive in the other direction.[1]

School Board Committees.

When school boards were large it was the custom to appoint several standing committees—for example, on school buildings and grounds, on the appointment and promotion of teachers, on courses of study, on apparatus and supplies, on text books, and so on. Even with smaller boards the practice is still to some extent continued. It increases the amount of time which each member must devote to his official duties, it encourages a confusion of functions, and it puts a premium on secrecy in the conduct of school affairs. With a school board of five, seven, or even

[1] There is a discussion of this question by Mayor Gaynor of New York City on the one side, and President Nicholas Murray Butler on the other, in the *Educational Review*, Vol. XLII, pp. 204-210 (September, 1911).

nine members, and with a proper division of functions between the board and the superintendent, few committees are needed and there is no necessity for their meeting frequently.[1]

The City Superintendent of Schools.

The division of work between the superintendent and the school board cannot be made hard-and-fast. To say that the board should deal only with matters of general policy, leaving all executive duties to the superintendent, does not help very much, for it is almost impossible to determine, when some questions arise, whether they belong in one category or the other. There must necessarily be some give and take. A great deal depends upon the competence and tact of the superintendent, the forbearance of the board, and the degree of confidence which each reposes in the other. It goes without saying, of course, that the competent superintendent of schools must be a man or woman with special training for the post, well-paid, and chosen for a reasonably long term. The position, from its nature, demands the services of a professional educator. This is now so generally recognized that no one else is ever appointed to the post. The high average of efficiency with which the work of school supervision has been performed is indeed one of the strongest arguments for the employment of experts in other departments. The superintendent is the organizer and director of the city school system in all its branches; his office is the center in which all the lines of routine administration converge. He usually recommends the appointment and promotion of teachers; he makes their assignments and supervises the programs of study. He is the school board's adviser on all technical matters. He is supposed to take the initiative in the adoption of new policies and methods. To this end he must know his community, must divine its needs and plan to meet them. All in all the superintendent's post is one of great importance and responsibility. Measured by its opportunities it is the most important position in the entire municipal service.[2]

His Functions.

[1] There is a good discussion of this subject in F. W. Ballou, *The Appointment of Teachers in Cities* (Cambridge, 1915).

[2] In large cities it is impossible for the superintendent to perform all his duties personally, hence he is usually given the help of one or more assistant superintendents and a corps of school supervisors. In smaller communities much of the business and clerical work of the school department devolves upon the superintendent but in the larger cities it is now the practice to engage a business manager or business agent. To this official is entrusted the work of managing the school buildings, purchasing and distributing supplies, supervising the janitors, and keeping the school accounts. The various

Should the City Have Home Rule in Educational Matters?

In Continental Europe the control of elementary education has been largely centralized in the hands of the national or state governments. Would a greater degree of such centralized control be advantageous in America? To what extent should the city schools be under the control of the state authorities? Is it advisable that city school boards should be left free to manage the schools as they think best, without interference from the state? These are questions upon which the opinions of educators differ. It is argued that the school board in every city knows best the needs of its own community and hence ought to be given a free hand in meeting these needs. This policy, moreover, affords each community a chance to try experiments and it is through experiments that progress in education, as in everything else, is usually made. On the other hand it is logical to assert that when the state laws make education compulsory, and when the state treasury grants money to local schools, it is the right of the state to see that the money is properly spent.[1] If every city, town and village were left free to manage its schools without any central control there would be no uniformity in the subjects taught, in the qualifications of teachers, in the standards of education, or in the organization of the schools. It would be difficult in that case for a pupil to transfer from one school to another, outside the same community, without finding himself a misfit in the new institution. The school system is maintained for the benefit of the whole people and not for portions of the people here and there. A certain amount of central control seems therefore to be desirable, but it is not for the best interests of education that every school throughout the state should be conducted in exactly the same way. Any such policy tends to deaden the whole process of education and to impose upon progressive communities the cramping influence of standardization. There is a great deal to be said for home rule in education, provided there is a

phases of the superintendent's work are explained in J. C. Morreson, *The Legal Status of the City School Superintendent* (Baltimore, 1923).

[1] The laws and the practice differ greatly from state to state, and sometimes from one community to another. It would be futile to attempt the task of presenting here even the most important variations. Those who desire to know exactly how the schools are controlled and managed in different parts of the country will find full information in S. T. Dutton and David Snedden, *The Administration of Public Education in the United States* (New York, 1913), and in E. P. Cubberley, *Public School Administration* (Boston, 1922).

sufficient amount of state supervision to keep the schools up to a proper standard.

Educational Work of the National Government.

The national government, as has already been pointed out, possesses no formal powers with respect to education in the states. Nevertheless it has done a good deal to promote the interests of public education by publishing the results of investigations into educational problems, and by rendering advisory assistance to the state authorities. It maintains a Bureau of Education which is now within the jurisdiction of the Interior Department. At the head of this bureau is a Commissioner of Education appointed by the President. The functions of the bureau are almost wholly of an informational character; it collects data for the use of educators and publishes this material in annual reports and bulletins.[1] There is a movement to make this bureau a regular Department of Education, with a member of the cabinet at its head, and to increase its powers considerably; but this movement has not yet been successful.

Federal Aid to Education.

Within the last few years there has been a good deal of controversy, both in Congress and outside, over a proposal to appropriate further funds from the national treasury for the promotion of general education in the states, particularly in those states where the common school system needs toning up. This proposal is embodied in a measure which has been before Congress for some time but upon which no favorable action has yet been taken.[2] In favor of the measure it is argued that public elementary education is a national necessity and that if any state or city cannot raise sufficient money to keep its common schools up to a proper standard, the interests of the whole nation will suffer in the end. There is just as much reason, and more, it is asserted, for federal aid to state schools as for such aid to state roads. On the other hand it is objected that the policy of large federal subsidies to education would involve the taxing of the

[1] In 1917, by the Smith-Hughes act, Congress provided that each year a grant from the federal treasury should be made to the several states in order to encourage vocational education. This money is distributed among the states on condition that each shall contribute an equal amount, the distribution being made, not by the Bureau of Education, but by the Veterans' Bureau because a considerable part of its work for the present is connected with the providing of vocational training for American soldiers and sailors who were disabled in the World War.

[2] The Smith-Towner Bill, now the Towner-Sterling Bill.

populous and thriving states of the East, the Middle West, and the Pacific Slope for the benefit of those other states, especially in the South, where the school system has heretofore been backward through lack of funds. Most of the federal government's income is provided by the taxpayers of states in which the public school system has already been brought up to a standard where there is no urgent need for federal assistance. The grants from the federal treasury would go to states which contribute very little of the revenue. In other words taxation would be levied upon some states for the benefit of others. This may sound objectionable, but it certainly is not new. Most of the national government's expenditure benefits some states more than others. Most of the state's expenditure benefits some communities more than others. The people of the United States form a nation, not merely an aggregation of self-interested states and communities.

The Most Important Objection to Federal Aid.

A somewhat more weighty objection may be found in the probability that if the national government begins the practice of making large annual grants to the states for educational purposes it will, in due course, undertake to exercise control over the public school system of the country. All governmental experience points in that direction. When a government grants money for any purpose it has an undeniable right to make sure that the money is being properly spent. To do this it must create some system of inspection. Inspection leads to supervision, and supervision sooner or later merges into actual control. It is feared in many quarters that this would be the ultimate outcome of federal aid to common school education on any large scale. And it is a widely-held conviction that even a moderate centralization of control at Washington would be detrimental in its effects upon American school policy. The issue is a large one and we have not yet heard the end of it, but it is not intimately related to the general subject of municipal school administration and no prolonged discussion of it would be justified here.

Some Problems of School Organization.

Several problems of great importance are engaging the attention of the school authorities at the present time. The more conspicuous among them may be indicated by a series of questions which come under discussion whenever educators meet, and which are of direct interest to the whole community. How should teachers be selected? How may better recruits for the teaching profession be obtained, and good teachers kept from leaving the

service? To what age should school attendance be made compulsory? How can pupils be kept from leaving school before they have received a sufficient amount of education? How should the school course be divided? Should we have junior high schools? Should the cities maintain junior colleges, and even municipal universities? Can the work of the schools be brought into closer and better contact with the resources of the public library? Is it possible to use the school plant, after school hours, for various forms of community service? Can greater use be made of the school plant during the school day? And where are we going to get the money with which to carry on all these new enterprises if we ultimately agree that they are desirable? These various questions may seem to be unrelated to one another, but they all point to different aspects of a single great problem and may be summed up in the one broad query: What changes in school organization will better enable education to fulfil its threefold purpose?

The Appointment and Promotion of Teachers.

In most American cities the appointment of principals, teachers, and assistants is made by the school board on the recommendation of the superintendent. In most cases the superintendent's recommendations go before a committee on teachers before they are submitted to the whole board. The recommendations must be made from among applicants who possess certain educational qualifications which are laid down, as a rule, by state law. In some cities these qualifications are general in form, merely providing, for example, that appointees must be graduates of normal schools, or of higher institutions, or that they must have state certificates. In other cities a competitive examination is periodically held, and only those who rank high at this examination are eligible no matter what their prior qualifications may have been.[1] In all cases a certain amount of discretion is left with the superintendent. Some cities use examinations for promotion also, but the more common practice is to place reliance upon estimated classroom efficiency and the superintendent's personal judgment,

[1] The requirements differ in the various classes of schools, those set for high school teachers being considerably above those for teachers in the grades. A full discussion of the various requirements may be found in F. W. Ballou, *The Appointment of Teachers in Cities* (Cambridge, Mass., 1915). Mention may also be made of the excellent brief discussion contained in Chapter IV of the Portland (Oregon) *Report of the Survey of the Public School System* (Yonkers, 1915).

taking seniority into account as well. It is generally agreed nowadays that promotions should not be made on the basis of examinations alone, nor yet in accordance with the unrestricted discretion of the superintendent. Attempts are therefore being made to devise a plan for reliably measuring the efficiency of teachers by means of ratings and records based upon the combined judgment of various supervisory officials.[1]

**Recruiting the Teaching Profession: The Question of Pay.**

No system of appointment will avail to secure good teachers unless competent candidates come forward. And they will not come forward unless the pay and the conditions of service are sufficiently attractive. It is unfortunately true in many cities that the scale of salaries in the school department has not kept abreast of that which exists in private employment. The median pay for public school teachers of all grades in American cities is less than twelve hundred dollars per year.[2] This is below the rate of wages earned by manual workers and far below the usual rate in any of the skilled trades or professions. The result is that young men and women who possess a high degree of mental capacity, ambition, and initiative, are not entering the teaching profession in adequate numbers. Or, if they accept positions in the city schools it is often as a means of earning money for further study or of employing their time until something better turns up. The "turn-over" in the ranks of city school teachers, in other words the replacement average, is high in comparison with that of the teaching staff in colleges or even compared with the skilled-labor turn-over of well-organized business concerns. The difficulty encountered in obtaining good teachers is only exceeded by the difficulty encountered in keeping good teachers. For both these difficulties there is but one remedy—the remuneration must be brought to a point where the city schools can secure and retain the degree of teaching skill and experience that they ought to have. Good pay and high standards are inseparable.[3]

[1] W. S. Monroe, *Measuring the Results of Teaching* (Boston, 1918).

[2] In 1919 the National Education Association compiled and published a *Bulletin* (*No. 6*) on *Teachers' Salaries and Salary Schedules in the United States* which showed the median salary rate for intermediate school teachers to be $1047 per annum. The figure is probably somewhat higher today than it was in 1919.

[3] To some extent a discrepancy in pay can be offset by a liberal system of teachers' pensions. Various schemes of pensioning superannuated school teachers are now established in American cities. They are described in Paul Studensky, *Teachers' Pension Systems in the United States* (New York,

The Training of Teachers.

But the injustice to the "poor teacher" is not the only thing that the community ought to have in mind. It should not omit sympathy for the poor pupils who will be poorly taught so long as there are poor teachers in the schools. For in the last analysis the quality of public education depends upon the teachers. Suitable buildings, a well-planned curriculum, and good text books all contribute their share towards the efficiency of a school; but these are inanimate things. Without capable and well-trained teachers they are not of much avail. Now effective teaching requires two attainments on the part of the teacher, a knowledge of the subject and an ability to impart this knowledge to others. Both of these things are equally essential and both are in large measure the result of training. It is for this reason that all the states and some of the cities maintain normal schools or teacher-training schools in which prospective teachers are educated in the art of giving instruction.[1] The universities also provide extension courses and summer instruction with the same end in view.

The Supervision of Teachers.

As respects teachers who are already in service, good training is to some extent a matter of capable supervision and in the larger cities a great deal of emphasis is now being placed upon the work of the supervisors whose duty it is to help the teachers by suggestions and guidance. Even larger appropriations should be devoted to this work than are at present available. We are inclined to spend our school appropriations on buildings, books, supplies, and facilities for the pupils, and to feel that the community discharges its full obligation to the teachers when it pays them a living wage. But human knowledge and educational methods keep moving rapidly forward, and the teacher who is not enabled to keep close on the trail is sure to be left behind. Unless the teachers, therefore, are afforded the opportunity of being kept in touch with the latest and best methods in their respective fields they become inefficient and unprogressive without knowing it.[2]

1920), and in the Bulletin of the Carnegie Foundation, prepared by Clyde Furst and I. L. Kandel on *Pensions for Public School Teachers.*

[1] F. A. Manny, *City Training Schools for Teachers,* United States Bureau of Education *Bulletin No. 47* (Washington, 1915).

[2] The various means of improving the work of teachers are described in C. R. Ruldiger, *Agencies for the Improvement of Teachers in Service,* United States Bureau of Education *Bulletin, No. 3* (Washington, 1911), and in H. Updegraff's paper on "The Improvement of Teachers in Service in

**The Age of Compulsory School Attendance**

Another problem of school administration concerns the pupils and parents rather than the teachers. To what age should school attendance be made compulsory? In most of the states this age is now fixed at fourteen years (or grammar school graduation) although some Southern states still maintain the twelve-year limit. Many educators believe that even the fourteen-year limit is not high enough and are urging that it be raised. In some states a step in this direction has been taken by requiring that all persons under sixteen years of age who engage in any form of wage-earning employment must either present a certificate of graduation from grammar school or must attend continuation classes for so many hours per week. More urgent than any raising of the school age, however, is the need for more strictly enforcing the rules which now exist. In some parts of the country the present age limit of twelve or fourteen years is poorly enforced, with the result that many thousands in the backward rural sections and in the crowded districts of cities are growing up in illiteracy.[1] This situation is likely to continue, despite the increased strictness of the laws, until school attendance officers are appointed in all school districts. In the larger cities such officials are now provided for, and in many of the smaller ones as well. The results are apparent in a larger and more regular school attendance.[2]

**School Attendance Officers.**

**Making School Attendance More Attractive.**

But we should not depend wholly upon the stern arm of the law and the vigilant eye of a truant officer as the sole means of getting pupils into school or keeping them there. When normal boys and girls dislike going to school, when they stay away at every opportunity, and leave school as soon as they can, there is reason to suspect that something is wrong with the school system itself. The whole problem of compulsory attendance is closely tied up with such matters as the nature of the studies, the quality of the teaching, the providing of specialized schools,

City Schools" printed in the *Proceedings of the National Education Association*, 1911, pp. 433-445.

[1] According to the census figures only one person in fifteen (above school age) is unable to write; but the experience of army officers with drafted men during the war showed that the proportion must be a great deal larger. The census enumerators take a man's word for it; the army authorities at the various camps applied an actual test. They found that about one man in every five was unable to write a simple letter of a dozen lines.

[2] C. M. Woodward, *Compulsory School Attendance*, United States Bureau of Education *Bulletin, No. 2* (Washington, 1915).

and the division of the school course into grades. Only one-half the pupils who enter the elementary schools of American cities remain to the final elementary grade, and only one in ten reaches the final year of the high school. This high degree of mortality suggests not only that industry is a strong competitor with education but that the schools do not succeed in holding the allegiance of their pupils. The situation, however, is steadily being changed by various measures which are adjusting the schools more closely to the needs of their respective communities.[1]

College Education as a Municipal Function.

Originally it was assumed that free education ought to be provided by the city through the elementary grades and no further. Then the proposition was broached, and in time found general acceptance, that the system of free education should include the high schools. Now it is proposed to carry it further by the establishment of junior colleges and indeed there is some demand for full-fledged municipal universities. Junior colleges, with programs which carry their pupils through the first two years of regular collegiate work, have been established in many American cities. Regular universities, maintained by the municipal treasury are also being maintained in some of them and their number will probably be increased as time goes on.[2] So we are face to face with the question: At what point in the educational process does the obligation of the city come to an end? There are state universities in most of the American commonwealths and to the support of these institutions the taxpayers of each city contribute their share. But some states have many large cities and the state university cannot be located within easy access of them all. Hence the demand that facilities shall be provided for free collegiate education at home. The junior college is merely a way station on the road to a full four-year college course at the expense of the municipality.

The School and the Public Library.

The public library is an institution of great educational value and its relation to the schools ought to be more intimate than is usually the case. It is potentially a far more effective agency of public education than it has been made. The schools and

[1] The establishment of junior high schools, for example, is one of these measures. For a discussion of this subject see T. H. Briggs, *The Junior High School* (Boston, 1920).

[2] The largest of these are the College of the City of New York, the University of Cincinnati, Toledo University, and Akron University. It will be noted that three of these four are in Ohio.

the public library have the same general mission, which is the education of the whole community. The library, however, has by no means so fully appreciated the fullness of its responsibilities. Too often it is merely an ornate building with a miscellaneous assortment of books (mostly fiction) on its shelves. The authorities usually buy whatever their readers ask for, and rarely assume any real leadership in moulding the tastes of the library's patrons. Its rules and regulations are sometimes needlessly strict; they place a damper upon the free use of the library facilities.[1] The tendency, moreover, has been to regard the public library as a place for adult readers primarily. But the way to enlarge this circle of adult readers is to bring them into touch with the resources of the library while they are young, and the public schools are the natural channels through which this can be accomplished. Were it not for the schools, there would be no readers for the library.

**Linking the Two Institutions**

In well-managed public libraries a policy of co-operation with the schools is now being followed. Many of them have established juvenile departments in which an expert carefully chooses books that are likely to interest the young. Reading lists of interesting and timely subjects are also kept posted; the pupils in the schools are encouraged to use the library in connection with their studies; illustrated lectures are provided in the late afternoon hours and on Saturdays, and the whole atmosphere of the library becomes one of welcome to readers of every age. It should not be thought, however, that all municipal libraries are rendering this degree of service. The majority of them have not yet been shaken from their stupor. The reason, in part at least, may be found in the personnel of library boards, or library trustees, whether appointive or elective. These boards are composed for the most part of well-intentioned but easily-satisfied men and women who are more concerned with the dignity of their work than with the measure of service rendered. Compare the progress in school activities during the past thirty years with that which has taken place in the public library administration! There is no comparison. The suggestion that library boards should be abolished and their functions transferred to the regular school

[1] There are some cities, for example, in which the privileges of the "public" library are extended only to property-owners or to those who secure, on their applications, the signature of a property-owner.

authorities has much to be said in its favor, for the library and its branches are integral parts of the city's educational plant.[1]

The Wider Use of the School Plant.

Under ordinary conditions, how many hours of use does a community obtain from its school building in the course of a year? Five hours per day, five days per week, for about forty weeks in the year! That makes a total of about a thousand hours —a year contains more than eight times as many. When used for school purposes only, school buildings are empty seven-eighths of the time. But the cost of maintenance goes on all the time. School buildings are admirably suited for many after-school purposes; they are centrally-located, well-heated and ventilated, clean and commodious. Why not make use of them outside of school hours? Many cities are now making use of them for evening classes, for public meetings, and for neighborhood recreation. The high schools in many cities have become evening social centers for the section in which they are located. This means that the class-rooms, assembly hall, and gymnasium are opened for lectures, entertainments, games, and dances, all under the supervision of officials (usually teachers) who are appointed and paid by the school board. The complaint is sometimes made that this wider use of the school plant is not education in the customary sense, but recreation or amusement, and that the taxpayers should not be required to pay for adult amusement under color of supporting a public school system. There is some force in this contention, but so long as the work is of value to the community and worth what it costs, the particular heading under which the money is expended does not matter a great deal. These evening activities are placed in charge of the school authorities as a matter of convenience and not because they are exclusively of an educational character.[2]

The Gary System.

Do we make sufficient use of the school facilities within the available school hours of the day? The usual school program does not cover more than five hours, although there are eight hours between eight o'clock in the morning and four in the afternoon. In Gary, Indiana, a few years ago the school authorities decided that schooling, like labor, should be put on an eight-hours-

[1] This has been done, for example, in Indianapolis. Under the commission form of government, moreover, the schools and the public library are frequently placed under the same administrative headship.

[2] C. A. Perry, *The Wider Use of the School Plant* (New York, 1911).

a-day basis. Pupils were therefore kept at school from eight until four, spending half their time in the classrooms and the other half at vocational work or at organized play. By this two-platoon system the classrooms were made to accommodate twice the customary number of pupils. The Gary plan is based on the idea that a school plant should include a school, a workshop, a playground, a library, a gymnasium, and a community center all rolled into one and kept in use all the time. It takes into reckoning, moreover, the generally-accepted principle that leisure and play can be made to serve the ends of education. Special emphasis is placed by the Gary plan upon letting each pupil follow his own line of interests both in the classroom and in vocational work.[1] The plan was given a trial in some of the New York City schools during Mayor Mitchel's administration but it proved highly unpopular with the parents of school children who objected to the practice of keeping the youngsters at school during the hours when they might be at home doing chores or running errands. Labor leaders also looked askance at the vocational aspect of the plan, believing that this embodied a scheme to get the children more rapidly out of the schools into the shops and factories.

The Rise of Vocational Education.

Mention of vocational training brings up a school problem of great importance. For some years the whole curriculum of the public schools has been in process of change. The training of the old-time city school was in large measure literary and intellectual, without any direct relation to the present or future interests of pupils. It was a heritage from a preceding generation in which education was the prerogative of the well-to-do, the privilege of the leisure class, designated to give culture and erudition. But inasmuch as nearly ninety per cent of all the pupils in the public schools go directly into some form of industrial or mercantile employment (not into the learned professions) it can readily be seen that a school program of strictly cultural studies does not satisfy the needs of the modern municipality. Hence the demand for vocational education, for such study and practice as will connect the pupil directly with his future life work.

The Passing of the Old Curriculum.

In response for the demand for vocational studies the old curriculum has undergone a radical transformation. Today it is

[1] W. P. Burris, *The School System of Gary, Indiana*, United States Bureau of Education, *Bulletin, No. 18* (Washington, 1915).

the disposition of educators to challenge every subject to demonstrate its value. A subject which cannot demonstrate that it helps to fulfil some one of the recognized purposes of education is given a subordinate place in the curriculum or taken out altogether. In keeping with this attitude the vocational studies have come into great prominence during the past twenty years or more, for they are regarded as connecting the pupil with his future life-work. Shopwork, millinery, sewing, cooking, stenography, mechanical drawing, and a dozen other branches of vocational work have been brought into the school program. They are crowding the older high school studies, particularly the classical languages, into the background. Special schools of commerce and industry have been provided in many of the large cities, and special schools of agriculture in the rural districts.[1]

Physical Aspects of School Administration.

The Schoolhouse.

These various changes in the scope and drift of public school activities have made new demands upon the school plant. The location, planning and equipment of the schoolhouses have become matters of greater moment than they used to be.[2] A good school site must be central, that is, readily accessible to the whole population of the district. Pupils who live at a distance can be brought to and from the school in motor busses, as is now being done in many cities; but the adults who resort to the schools for evening instruction or recreation cannot well be transported in this way. The school site, moreover, should be in a region of relative quiet, not in close proximity to a railroad or an interurban street railway line with heavy cars. It should be spacious enough to afford room for playgrounds, an athletic field, and other appurtenances besides the school building. The building itself, if more than one story in height, should be of fire-resisting construction, and care should be devoted to its

[1] No sensible person should regret that the schools have moved in this new direction; the only question is how far they ought to go. If the only purpose of education were to teach the art of earning a living, it would be another matter; but purely vocational studies do not afford sufficient scope for the attainment of the other educational purposes. Man does not live by bread alone. The cultural studies have their value although this is often overlooked because it does not appear in plain sight to the naked eye. Even in the vocational school there should be a proper balance between the definitely vocational studies and the cultural studies.

[2] M. Ayers, J. F. Williams, and T. D. Wood, *Healthful Schools; How to Build, Equip and Maintain Them* (Boston, 1918).

ventilation, light and heating. It is also desirable that the building be so constructed as to be readily and cheaply made over, for the local needs as respects the interior arrangements of school buildings are changing year by year. Too often, unfortunately, the architect and the school authorities unite in the creation of a massive structure which within a relatively short time proves to be ill-suited to new conditions and yet cannot be remodelled without a large outlay. School methods should not be stereotyped in this way. We do not know what sort of school plant a city may need thirty years hence; but it is a fair prediction that it will be something different from what is needed today. Educational methods can only be kept flexible by keeping the school plant flexible. Those cities are wise which follow the policy of building inexpensively with the expectation that as soon as a school building becomes unsuitable it can be remodelled or sold without too heavy a loss.[1]

**The School Playground.**

The place for a playground is in connection with the schoolhouse. It is part of the educational plant. The boy without a playground is father to the man without a job. He is suffering exactly the same loss, the cutting of the main strand of his existence.[2] Yet it is only within recent years that school authorities, and the public as well, have come to appreciate the educational value of organized and supervised play. Recreation and play, when properly carried on, afford not only exercise and amusement, but education as well. Some useful lessons which cannot be taught in the class room are learned by participation in organized athletics. Everyone realizes, for example, that play in which there is no leadership and no observance of rules is a very poor sort of play. It may give physical exercise in plenty, yet it satisfies nobody. Anarchy on the playground is no more satisfying than anarchy in other branches of human

[1] This does not mean, however, that the schoolhouses should be small structures, with accommodation for only a few classes. Larger structures are desirable from both a financial and an educational point of view; but even large schoolhouses can be built with an eye to economy. Attention may be called to the article on "The School Building Program" by George D. Strayer, in the *Proceedings of the Fourteenth National Conference on City Planning* (1922), especially p. 51. The whole matter of school buildings is also discussed in the *Report of the Survey of Public Schools in Philadelphia* (1920) and in Volume I of the *Baltimore School Survey* (1921).

[2] Joseph Lee, *Play in Education* (New York, 1915), p. viii.

activity. Organized play is merely *government* on a small scale. The element of leadership, the discipline, the rules, the practice of obeying the umpire—they all suggest that officials, laws, government, and courts are essential to the best interests of the individual in the great interplay of life. To be of educational value, however, play must be organized, directed, and supervised. This means that the public playground, whether connected with the schools or located elsewhere, should be under the jurisdiction of the school authorities. It is not a park in the ordinary sense and there is no sound reason for placing it under the control of the city's park department.

**Financing the Schools.**

Public education in the United States has become enormously more expensive during the past twenty years. School buildings cost more to construct and maintain; the pay of teachers has been increased; the supplies used in schools are steadily improving in quality—and in price. The new methods of school organization and instruction, the wider use of the schools, the extension of vocational education, the providing of free text books, the progress of health work in the schools, the establishment of evening schools, continuation schools, vocational schools—all these things have caused the cost to keep mounting year after year.[1] The public schools of the United States now cost the taxpayer more than a billion dollars per annum. That is twice what they cost ten years ago.[2] If the expenses double once more in the next decade, where will the money come from? The schools are not the only instrumentalities of public service. They must share the public income with many other municipal departments —streets, health, poor relief, police, fire protection, water supply, sanitation—all of which are clamoring for more money each year. It may be replied, of course, that the way to get more money for all of them is to keep raising the tax rate. This, however, merely betrays the existence of a common impression, which is that city tax rates have the sky as their limit. The truth is that when taxes on property rise above a certain point they are a deterrent to the erection of new buildings and check the industrial

[1] For a discussion of health work in the schools, see *above* pp. 269-270.

[2] Allowance must be made, however, for the fact that the purchasing power of money has declined considerably during this decade. On this question of increased school expenditures there is an interesting article by Edwin B. Stevens entitled, "Can We Pay for Education?" in the *Educational Review*, Vol. LXIV, pp. 183-195 (October, 1922).

progress of the community. Within certain flexible limits a city has only so much money to spend.

Should School Boards Have Independent Taxing Power?

Some of the money that is needed for the support of the public schools is supplied by the taxpayers of the city or school district, and some of it by the state. In many parts of the country the annual contributions of the state treasury toward defraying the cost of local schools is very large. In some cities the school board has independent authority to levy taxes up to a certain maximum, but in others it merely gets such portion of the regular tax income as the regular appropriating authorities may choose to give it. The chief argument for placing the appropriation of school funds in the hands of the city council or the city commission is that it unifies the local taxing power, making one representative body responsible for all municipal expenditures. But experience demonstrates that there are serious objections to the policy of requiring the school board to come as a suppliant before the group of politicians who usually compose the city council. Nothing conduces more surely to draw the schools into politics. The school board must play the game, as the councilmen understand it, or the money will not be forthcoming. The best policy, and the one which is now being followed by the more progressive cities, is to set a maximum limit within which the school board has its own taxing power.

The rapid increase in the percentage of municipal taxes now taken by the school authorities has been the subject of much comment in business circles. The expenditure for schools is now the largest item in the municipal budget. School expenses have risen much more rapidly, during the past ten years, than the expenditures for police, fire protection, sanitation, or health. A billion dollars per annum seems to be a large sum for the country to spend on its schools; it is nearly ten dollars per capita. But it is only half as much as the American people spend each year upon tobacco, chewing gum, ice cream, perfumery, and cosmetics. Reckoning the total annual income of the entire population at about seventy billions the cost of public education represents less than two cents out of every dollar earned. It is a fair statement, moreover, that the taxpayer comes nearer getting one hundred cents on the dollar for his outlays in the school department than in any other branch of municipal administration. Money for the schools will be forthcoming so long as people

appreciate this fact. If present sources of revenue will not stand the strain, others must be found. There is nc more profitable use to which the people can consecrate their public expenditures.

The Public Schools and Democracy.

In 1780, when John Adams drafted the first constitution of Massachusetts, he inserted a notable provision setting forth the relation of "wisdom and knowledge" to the maintenance of free institutions.[1] This relation was so intimate, he believed, that it should be the duty of "legislatures and magistrates" to bestow special care upon "spreading the opportunities and advantages of education in the various parts of the country, and among the different orders of the people." In this Adams was right. No matter where one may go, in any part of the world, it will be found that political democracy and public education walk hand in hand. In despotisms one will rarely find a system of universal, free, public education; or, if it is found, we may be sure that the despotism will not last very long. Education is the friend of democracy and the foe of despotism. Indeed it can fairly be said that without a system of public education no democracy can ensure its own permanence. This is because the maintenance of democratic government depends upon the ability of the people to think straight and to see things clearly. The more political freedom you give a people the greater is their opportunity for abusing it.

But someone may interpose to ask this embarrassing question: If education helps to make people more sensible in political matters, why is it that well-educated and intelligent people are often found among corrupt and selfish politicians, and that even college graduates at times become political bosses? The answer is that in this, as in other things, a general truth does not cease to be a general truth because there are exceptions to it. Many well-educated men are unable to earn a living, but would anybody argue that education, as a general rule, renders

[1] "Wisdom and knowledge, as well as virtue, diffused generally among the body of the people, being necessary for the preservation of their rights and liberties; and as these depend on spreading the opportunities and advantages of education in the various parts of the country, and among the different orders of the people, it shall be the duty of legislatures and magistrates, in all future periods of this commonwealth, to cherish the interests of literature and the sciences, and all seminaries of them; especially the university at Cambridge, public schools and grammar schools in the towns . . ." *Constitution of Massachusetts*, Chapter V, Section ii.

no aid toward gaining a livelihood? As well might one urge that newspapers render no service in disseminating the truth because they occasionally print lies. It is quite true that men are not politically wise in exact proportion to the extent of their education. The man or woman who is only a grammar school graduate may have more political wisdom than the most finished scholar in the land. But this does not impair the fundamental truth that knowledge is preferable to ignorance in all countries, at all times, and in every field of human activity.

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Books and reports on special topics in school administration such as schoolhouses, school hygiene, the wider use of the school plant, school finance, and school organization are very numerous. Several of them have been mentioned in the footnotes appended to the text of this chapter. One of the most useful selected bibliographies is G. D. Strayer and E. S. Evenden, *Syllabus of a Course in the Principles of Educational Administration* (New York, 1922). Many works are also listed in the select bibliographies appended to the various chapters of Cubberley's *Public School Administration* (see above).

In 1916 the United States Bureau of Education published a Bulletin (No. 47) containing a *Digest of State Laws Relating to Public Education,* compiled by W. R. Hood and others; it has also issued three supplementary Bulletins containing the laws passed during the years 1916-1922. Special mention should also be made of the *Bulletins* issued at frequent

intervals by the United States Commissioner of Education, the *Proceedings* of the National Education Association, and the various *Surveys* which contain the results of recent school investigations in various cities. *The Cyclopedia of Education* (ed. Paul Monroe, 5 vols., New York, 1911-13), is likewise useful for reference on individual topics.

# CHAPTER XXXIX

## PUBLIC LIGHTING

Public Lighting Is a Modern Municipal Function.

It is only in modern times that the lighting of streets has become a municipal function. Even London, the world's largest city, remained unlighted until the middle of the eighteenth century. The gossipy Pepys, in his classic *Diary,* recounts the difficulties and dangers which beset night traffic in the metropolis during the era of the Stuart kings. Theatres and other places of amusements confined their activities to the day hours. There was no evening work or recreation. The Londoner of Milton's time barred his doors and went to bed when darkness came, for there was little else to do. The tallow candle was about the only indoor lighting appliance known to the world for more than a thousand years. Oil lanterns were occasionally hung at the street corners and in front of doorways during the seventeenth and eighteenth centuries, but gas did not come into general use until after 1800. This new illuminant held undisputed sway until about 1880 when electricity entered the field and advancing with extraordinary strides gradually crowded gas aside. The science of illumination has made greater progress during the last fifty years than it was able to make in the preceding two thousand.[1]

Some Results of Progress in the Art of Illumination.

The unreflective mind of today does not readily grasp the enormity of the change which the progress of artificial illumination has wrought in the methods of urban life. Artificial light, now brought to a high pitch of efficiency, has freed the people from their ancient dependence upon the caprice of sun and moon. Industries are enabled to operate in double shifts, and some great enterprises crowd most of their work into the night hours, the morning newspapers for example. Much of our transportation by water, by rail, and by road is now made possible by

[1] On the evolution of artificial lighting appliances see Walter Hough, "The Development of Illumination" in the *Annual Report* of the Smithsonian Institution, 1901.

artificial lighting. The planning of giant buildings has been simplified by the fact that care need no longer be taken to provide all the rooms with natural light. A considerable part of every great city's trade and industry is nowadays carried on in places to which the sun's rays rarely or never penetrate. For proof of this one need only walk through any large department store and note the amount of artificial illumination that is used during the day hours. Without high-powered artificial lighting, moreover, the city's recreation facilities, both public and private, could never have been elaborated to their present extent. To take only a single example, the most widely popular among all present-day forms of recreation, the motion picture shows, could not have been developed. For many centuries the world disliked and dreaded the coming of the night wherein no man could work, and it is small wonder that among primitive peoples the sun and the moon became objects of reverence and worship. Not least among the allurements of the New Jerusalem was the promise that "there shall be no night there."

**Popular Ideas Concerning Public Lighting.**

Night, in the modern city, has been transformed into day. This is because the municipal authorities have assumed the function of making the streets and other public places both safe and convenient for traffic during the night hours. The wayfaring man does not always appreciate how intimately this function is related to his own habits of life, nor does he look upon public lighting as one of the major municipal activities. He has some ideas, as a rule, about street pavements, public buildings, parks, and schools; he may even have some hazy opinions about poor relief and public health; but as respects public lighting the average citizen rarely has any constructive ideas at all. No branch of municipal administration receives less of his thought or observation. Not one man in ten, for example, can tell you whether the street lights around the corner from his home are arcs or incandescents, whether the poles are of wood or of iron, or whether the globes are frosted or plain. The only thing that concerns him is that there should be enough illumination—the more of it the better.

**In General, Public Lighting Has Been Badly Planned.**

Now one consequence of this is that the element of waste in public lighting bulks very large. It is probably larger here than in any other branch of municipal activity. From twenty to forty per cent of what the city spends under the head of public

lighting can usually be set down as waste because it renders no real service in promoting public safety or convenience. No street light is one-hundred per cent efficient unless it is properly located with reference to other lights, correctly shaded, free from glare, and set at such an elevation that the maximum illumination falls where it is most needed, which is usually the middle of the street.[1] Other matters should also be taken into account in devising, for any designated thoroughfare, a plan of lighting which will give the greatest amount of service for the minimum of cost. For example, the amount and nature of the after-dark traffic in the street and the quantity of light contributed to the street surface from private sources (shop windows and illuminated signs) should be taken into account.[2] Even the color of pavement is of some consequence.[3] The scheme of public lighting, in a word, should be adapted to the environment, whatever it is. Efficiency in public lighting is a matter of adequate light flux, location, steadiness, reliability, æsthetic attractiveness, and cost. Look at the full moon on a clear night. She does not give a high degree of illumination anywhere, but in point of uniform distribution, softness, steadiness, and the absence of glare no system of lighting yet devised by man compares with her work.

**The Lighting of Public Buildings.**

The work of public lighting presents a great many problems of varying difficulty. They relate not only to highways but to municipal buildings, parks, and all other places of outdoor resort. In the case of public buildings the problems do not differ materially from those encountered in structures under

[1] The intensity of the illumination varies, of course, with the distance from the light. The appended drawing indicates the ideal uniform illumination on the street surface, which can be achieved by the use of scientifically designed refractors.

[2] Stand on a busy corner some night, with stores and theatres well illuminated all around; glance at the street lamps with their rays so completely swallowed in the flood of surrounding light that they have a reddish hue, and you will realize that there is a great deal of waste continually going on.

[3] A concrete pavement, obviously, "eats up" less light than one of macadam.

private ownership, but most American cities have been astonishingly unprogressive as respects the lighting of police and fire stations, not to speak of the offices at the city hall. Even the reading rooms of public libraries have left much to be desired in the way of satisfactory lighting, although these are rooms in which comfort and convenience depend very largely upon good lighting facilities. The science of interior illumination has made extraordinary progress during the past twenty years, but much of it has passed over the heads of the municipal authorities.[1]

**The Lighting of Parks.**

The satisfactory lighting of parks is not a matter of any great difficulty since it is largely a question of so placing the lights that they will serve the ends of public order while contributing to the æsthetic attractiveness of the region. Utility and attractiveness, however, are not always easy to reconcile. From a police point of view the best results are obtained by placing the lights irregularly, wherever dark spots among the trees or shrubbery call for them, and especially in out-of-the-way places. The park designer, on the other hand, usually prefers to have the lights ranged along the curved walks and driveways in such way as to accentuate these features of his plan. But in any case the use of high-powered lights in public parks (except on such parkways as are arteries of traffic) involves a waste of public money. No higher degree of illumination is needed than than which is given to minor residential streets. Playgrounds, athletic fields, and such places of public amusement, on the other hand, require a much higher standard of illumination if they are to be made available for use after dark. Some cities, both in England and America, have been experimenting along this line, but it is not yet certain that the policy of making playgrounds and athletic fields available for after-dark use is worth what it costs for lighting and supervision.

**The Lighting of City Streets.**

Ninety per cent or more of the city's public lighting problems are connected with the illumination of streets, squares, and alleyways. In the case of alleyways, minor residential streets, and other public thoroughfares in which there is very little night traffic the chief purpose of lighting is to facilitate the work of

[1] An interesting and useful chapter on "Lighting in Public Buildings" may be found in M. Luckiesh, *The Lighting Art* (New York, 1917), pp. 158-170.

the police. There was a time when this could be said to be the chief purpose of all public lighting. One hundred years ago the amount of public lighting was almost uniform everywhere—it was determined by considerations of safety and not by motives of convenience. But the enormously increased use of certain streets during the night hours has dictated a radical departure from this policy during the last ten decades. Piccadilly, the Place de l'Opera, and Lower Broadway have many times the amount of illumination that is given to the streets of Pimlico, Montmartre, or the East Side. Even in the same section of a great city, the power of the lights may vary tremendously from street to street. This is merely because the degree of illumination required by a modern thoroughfare depends on the amount and nature of the traffic which passes through it between the hours of sunset and sunrise, more particularly between the hours of sunset and midnight.

The Great Variety in Needs.

And in this respect there is a world of difference between streets, even though they run side by side. It is not the commercial importance of a thoroughfare that determines its lighting needs. Some streets which are densely thronged with traffic during the day hours may be almost deserted by night—the streets of the wholesale and financial districts for example. Conversely it sometimes happens, although not so often, that theatres and other places of evening recreation are located on streets in which there is no large flow of traffic during the day. So it comes to pass that, paradoxical as it may seem, a street may be paved for dense traffic and lighted for almost no traffic at all. For this reason the requirements of any thoroughfare, as respects illumination, cannot be determined by the application of a rule or formula; they are ascertainable only by a careful survey on the spot. Too often, however, no such careful study is made. The practice of taking a traffic census in order to determine what type of pavement a street should have is now common in American cities; but surveys made during the night hours as a basis for adjusting the lighting system to the actual needs of the thoroughfare—such surveys are very rarely undertaken.

Classification of Streets for Lighting Purposes.

Although there are some dangers involved in any attempt to classify streets in accordance with their lighting needs, it is sometimes practicable to do this and to gain some advantage

from so doing—provided one bears in mind that some streets will not fall readily into any class but will stand on the border line. Nevertheless, from the standpoint of their lighting problems, there are some broad divisions into which the city's thoroughfares fall, and with a watchful eye for the occasional exceptions they may safely be dealt with by groups or classes.

1. The "Promenade" Streets.

First of all there are, in every city, certain streets or parts of streets into which great throngs of people, either in vehicles or afoot, are drawn as though by an irresistible urge, night after night. In small communities the main retail business thoroughfare always draws the crowds; but in larger places this is not necessarily the case. Lower Broadway is far more densely thronged at ten P.M. than Fifth Avenue; Piccadilly is livelier by night than Regent Street; the Grand Boulevards of Paris carry more people in the evening hours than does the Rue de Rivoli. The location of the theatres, the cafés, and the other focal points of night-life will determine the direction of the popular current; but when once the drift is fixed it often remains by reason of tradition and habit. If a stream of night traffic once sets its course in a certain direction it rarely changes, and indeed it will often compel a transformation in the character of the street rather than alter its own fixed habits.

Where Their Flood of Light Comes From.

Streets which attract great throngs of people in the evening hours obviously require a high degree of illumination in the interests of public convenience. But the proprietors of shops, restaurants, theatres, and other enterprises along such streets are themselves alive to the psychological magnetism of bright lights, and they usually provide a large amount of illumination apart altogether from that supplied by the city. Where the people gather in large numbers, moreover, is the indicated location for illuminated signs and electric advertising devices of every sort. The result is that such areas are literally flooded with light, far beyond their actual requirements. But this does not mean that the city can venture to leave the lighting of such streets, or portions of streets, to private initiative. Much of this private illumination has only an accidental relation to the street surface; most of it is projected up into the air. Nearly all of it, moreover, is shut off at midnight and were it not for the lights that are provided by the city, these regions would be in darkness thereafter. The contribution from private sources ought to be

taken into account as a means of avoiding waste, but it cannot be entirely relied upon.

Streets which enjoy a large degree of evening popularity require, as a minimum, many times the degree of illumination afforded by the full moon on a clear night. Roughly it should be at least the equivalent of thirty to forty foot-candles measured at the street or sidewalk surfaces.[1] As a matter of fact it is usually higher in American cities. The requisite illumination can be most satisfactorily provided by the use of luminous arc lamps, set high in the air, and spaced about one hundred feet apart, or by clusters of high-powered Mazda lamps mounted on decorative standards at somewhat closer intervals. The latter plan, which adds greatly to the appearance of the street, is much the more popular nowadays; but it is very expensive.[2]

2. The Arterial Traffic Streets.

Second, there are the arterial traffic streets which carry a considerable amount of vehicle and pedestrian traffic during the evening hours, but are not thronged or congested. Such streets require a less brilliant illumination, but here also it is to be remembered that a good deal is provided from private sources. The city must make good the difference. Luminous arc lamps of moderate power give satisfactory service on such streets, but even on these subsidiary business thoroughfares the clamor for clusters of Mazda lamps has become more insistent during recent years despite the high cost involved. Streets of this second class differ more widely among themselves than do those in any of the other classes. They require from four to eight times the moonlight standard.[3]

[1] The intensity of light is usually designated in foot-candles or in fractions of a foot-candle. A foot-candle is the light shed by one unit of candle power on a surface set at right angles to the direction of the light at a distance of one linear foot. A unit of candle power is the light produced (at the candle) by one laboratory candle burning at the rate of 120 grains per hour. The "moonlight standard" is about one quarter of one foot-candle.

[2] The cost of creating a "great white way" by the use of 6.6 Amp. luminous arc lamps, or 2500 C. P. Mazda lamps, is sometimes as high as five dollars per linear foot of street per annum.

[3] A tabulation of street accidents, by hours of the day and night, shows that the maximum numbers occur during the interval between 5 p.m and 9 p.m. during the winter months. It has been estimated that nearly 20 per cent of the night-traffic accidents are due to defective illumination of the streets. For a full discussion of the matter see the paper on "Street Lighting and Public Safety" by Earl A. Anderson, reprinted from the *Proceedings of the American Society for Municipal Improvements* (1921).

3. Streets of the Wholesale District.

The streets of the wholesale, financial, and office districts form a third group. They bulk large in the daily life of the community, and contain a vast amount of valuable property. But they are very little used after six o'clock in the evening, and by nine they are as quiet as a rural roadway. Efficient public lighting accordingly becomes a matter of police protection rather than of catering to traffic convenience. The city authorities do not always recognize this fact, however, and their sense of the great importance of these streets by day seems to exert a subconscious influence upon their action in providing light by night. Whether for this reason or for some other the streets of the wholesale, financial, and office districts are usually provided with more public illumination than they really need for the prevention of crime, and the amount could be considerably reduced in most cities without inconvenience to anybody.

4. The Residential Streets.

There is the very large group of thoroughfares which we commonly speak of as "residential" streets. This generic term includes highways of great variety—broad and narrow, crooked and straight, with trees and without, with long rows of tenements set flush to the sidewalk or with houses of the well-to-do standing a dignified distance back from the street line. If one were disposed to divide and sub-divide the general category of residential streets, it would be possible to disintegrate almost without end. Although these residential streets are by far the most numerous among urban highways they are ordinarily utilized by a very small amount of night traffic. On the average residential streeet there is more traffic in a single hour of the day than in the nine-hour period between ten o'clock and seven. The amount of illumination required on residential streets is also, therefore, a question of supplementing the work of the police rather than of facilitating the passage of traffic although the latter aspect of the problem cannot be altogether left out of the reckoning. The lighting should at least be up to moonlight standard. On residential streets the public lights must do all the work, for the amount of illumination contributed by private owners is negligible. The type of light to be used on these streets depends very largely upon their topography. If the street is wide and straight, without being heavily shaded by trees, the use of luminous arc lamps set twenty to thirty feet above the surface and located at wide intervals is practicable; but on narrow,

crooked, and heavily-shaded residential streets it is wiser to provide Mazda or nitrogen lamps on twelve to eighteen foot standards at much smaller distances apart. Property owners on all residential streets seem to have a strong preference for the latter type of lighting, and this predilection the municipal authorities often feel bound to respect even when it is at variance with their own judgment.

The Use of Gas Lamps on Minor Streets.

Gas is still used to some extent in the lighting of residential streets, but it is slowly giving way. This is not because gas is more expensive than electricity or technically inferior as an illuminant. There is a certain public prejudice against its use. In alleyways, courts, and passages gas lamps are still in fairly general use but even here they are being crowded out. The amount of illumination required in alleys is small, but it must be enough to serve the ends of police protection. No particular attention need be paid to the attractiveness of these alley lights, of course, so the problem becomes a simple matter of obtaining the required minimum of light at the lowest possible cost.

Lighting and the Prevention of Crime.

In no case should street illumination be reduced to a point where it handicaps the work of the police. It has been found by a careful investigation of the criminal statistics that street crimes (hold-ups, assaults, automobile thefts, etc.) are relatively more numerous on badly-lighted streets than on those which are well-lighted. During the winter of 1917-18, in the endeavor to conserve the nation's fuel supply, the amount of street illumination was substantially reduced in many American cities. But as the streets grew dark the bandits grew busier. In Chicago, as one newspaper put it, "they turned off the lights to save the coal, but turned them on again to save the people." Every street light is a silent policeman. Good street lighting multiplies the efficiency of the city's protective forces.

Extravagance in Public Lighting.

From what has been written in the foregoing pages it will be seen that each of these five groups of public highways has its own special requirements, quite different from those of the remaining groups. Their needs, in fact, are as diverse in the matter of light as in such matters as paving and cleaning; but it cannot be said that the municipal authorities have generally recognized this axiom of civic administration. For the most part they have adopted a certain type of lamp and placed it on street after street, usually at the same height and interval, with-

out much heed to differences in the lighting requirements. A few streets, accordingly, get less light then they need; the majority of streets get too much. In this matter European cities have shown better judgment than America. The cities of the New World are more amply lighted, it is true, but more injudiciously and more extravagantly. People everywhere are careful to avoid the waste of artificial light in their own homes. They know that wastage reflects itself, with unerring certainty, in the monthly bill. But the sight of flagrant and continuous waste in public places seems to make very little impression upon their minds. Thousands of lights would not be permitted to wage a competition with the full moon if every citizen recognized this is one of the municipal extravagances that he has to pay for. Aristophanes calculated that the moon's light was worth one drachma (eighteen cents) per month to every Athenian. But the citizen of today gives little heed to such trifles. He demands that we strictly regulate the projection of the rays from automobile headlights, but he is not so insistent that the rays of the streets lamps be gathered up and directed to the street surface where they belong.

**The Lack of a Public Lighting Policy.**

Public lighting is a science, like water supply, sanitation, education, or the protection of the public health. But it has not been commonly regarded as a science by the city authorities. The usual course has been to plant a pole and put a light wherever and whenever a few influential citizens ask for it. Most of the smaller American cities have no lighting plan and no public lighting policy; some of them are not even provided with lamp-maps showing where existing lights are located. Obsolete types of lamps, globes, and reflectors are often retained, year after year, because the officials of the lighting department are lacking in technical knowledge or are in collusion with the private company which holds the lighting contract and which naturally desires to avoid, so far as it can, the expense of modernizing the equipment. Some cities have adopted the moonlight-and-after-midnight schedule of lighting, an arrangement by which a designated percentage of the lights are turned off whenever meteorological conditions are favorable, and after midnight in any case. The usual plan is to dispense with every second light, or every third light except at street corners.[1] Such a schedule involves a saving of from ten to fifteen per cent in the cost of public

[1] In the case of clusters one of the three lights in each cluster is left on.

lighting.[1] For the proper working of this arrangement, moreover, it is necessary to place on separate circuits those lights which are to be extinguished as per schedule, and this requirement involves a considerable addition to the expense of installation.

The Cost of Public Lighting.

The cost of public lighting depends upon many factors, some of which receive very little consideration in popular discussions of the subject. In the case of lighting by gas, one of the most important of these is the proximity of the city to natural gas fields, or to coal fields or oil wells. The cost of coal and of oil depends in large part upon the distance over which it has to be transported. The sub-surface topography of the city also counts for much in fixing the cost of gas lighting, since it determines the relative amount of money that must be expended in making excavations for the laying of mains. Labor costs also figure largely in the outlay for public lighting by gas, since the lamps are usually lighted and extinguished by hand and not by merely turning a switch at some central point. Much ingenuity has been spent in the endeavor to devise an automatic lighting and extinguishing mechanism which might be centrally operated; but thus far none has been found to be cheaper and more dependable than hand labor. In the total annual cost of public lighting by gas more than half is sometimes represented by the expense of lighting and extinguishing.

(*a*) By Gas.

(*b*) By Electricity.

In the case of public lighting by electricity, labor costs do not constitute so important an element. Here the overhead expense, more particularly the interest on a necessarily large investment, is a very large item. It has been estimated that every electric lamp in the city streets represents, on the average, an investment of at least five hundred dollars in power plant, conduits, wires, and other equipment. The interest on this will alone amount to twenty-five or thirty dollars per year. A very important factor in determining the cost of producing electric current, moreover, is the amount of variation in daily load laid upon the producing plant. Electricity is sold both for light and for power,—to a small extent it is sold for heating and cooking as well. Now

[1] The saving of current is much greater than ten or fifteen per cent, of course, but the cost of public lighting by electricity is not a question of current alone. Fixed charges (such as interest on the money invested in power plants, conduits, poles and equipment) go on whether the lights are in service or not.

it is evident that the amount of overhead which must be "loaded" on the lighting customer depends very largely upon the amount of current used for purposes other than lighting. Or, to state the matter in a different way, the overhead cost per kilowatt hour will depend upon the extent to which the plant can be kept working at full capacity. Every plant which produces electricity must be provided with facilities for handling its peak load, and the overhead cost of maintaining these facilities will go on whether they are in full operation or in idleness. It follows, accordingly, that if the demand for current be far below the peak during a large part of every day the cost per unit will be increased over what it would be if the plant were working at full capacity during the entire twenty-four hours.[1] It is for this reason that electric companies are so anxious to promote the use of their product for purposes other than lighting. It explains why they quote special rates to those who use electric power, why they sell cooking or heating appliances at cost, and carry on an extensive advertising propaganda.

**Futility of General Comparisons of Cost in Different Cities.**

In view of the way in which these various cost-factors differ from city to city it is always misleading to compare the per capita or per lamp cost of public lighting in one community with the cost in some other city where the conditions may be widely different. Geography, topography, labor costs, variations in load, differences in the laws relating to the employment of labor by public utilities, the character of the public lighting equipment, the amount of illumination provided—these and a dozen other things must be taken into account. It matters much in determining costs, for example, whether the wires are placed in conduits underground or strung overhead in the city streets. In the latter case a city may pay less for light but it more than makes up the difference in the disfigurement of its highways. Nothing, therefore, could be much more misleading than the assertion, so commonly made by political agitators, that public lighting rates should be reduced in Baltimore or Boston or some other city because they are lower in Glasgow or Paris, or in Detroit or Los Angeles. Now and then one finds in the newspapers a tabulation which purports to show the cost of public lighting per capita in various cities, or the cost per mile of streets, or per something

[1] For a full discussion of the "load factor" in its relation to costs, see G. P. Watkins, *Electrical Rates* (Baltimore, 1921).

else.[1] These figures rarely serve any useful purpose. People draw unfair conclusions from them. The truth is that whenever such compilations show one city to be paying twice or three times as much per capita as some other city, the reader may make up his mind that no such discrepancy exists without some sound reason for it. Higher lighting costs are at times due to incompetence and waste, but in the main they merely indicate more service, or better service, or service which for some good reason costs more. The only sure way to determine whether a city is paying too much for its public lighting is to have a computation made on the spot by a qualified expert, which is a long job and often an expensive one.

Contracts for Public Lighting.

In European cities the problem of making contracts with gas and electric lighting companies rarely arises. This is because most European cities own and operate their lighting plants directly. In the United States, on the other hand, relatively few of the larger cities have embarked upon the policy of municipal ownership in this field. They find it necessary, therefore, to make from time to time elaborate contracts for the lighting of their streets, parks, and public buildings. In the drafting of such contracts many difficult questions arise and they have not always been settled to the city's advantage. For how long a period should such a contract be made? Should the city provide the lighting equipment (mains, conduits, wires, poles, lamps, mantles, and the rest), leaving the company to supply the gas or current only? Or should the contract include the furnishing of this equipment? In the latter case how may the city make sure that the equipment will be kept in good repair and not allowed to become obsolete? How should the amount and the quality of the illuminant be specified, and how may such standard of quality be maintained? What is a fair price per annum for a street lamp of the candle-power desired? These and other difficult questions always come to the front when the representatives of the city and the company sit down to agree on the terms of a public lighting contract. A contract is a document in black and white, with its terms unalterable during a

[1] For example, a tabulation issued by the Minneapolis Civic and Commercial Association in 1921 indicated the per capita annual costs of city street illumination to vary from forty cents in Detroit to one dollar and fifty-three cents in Baltimore, a variation of nearly four hundred per cent.

period of years. But the city's needs are changing all the time and sometimes changing very rapidly. The methods and mechanism of public lighting are also changing. How can a contract be made sufficiently rigid to protect the city's interest and yet be left sufficiently flexible to permit the lighting system to keep pace with the times?

Duration and Terms of Lighting Contracts.

The proper duration of a lighting contract is obviously a matter upon which cities and companies do not find it easy to agree.[1] It is to the city's advantage to have the contract run for a short term of years, so that it may derive the benefit, at frequent intervals, of new appliances and methods as well as of any reductions in the cost of service which improvements may have made practicable. The company, on the other hand, prefers a long term so that it can frame its plans without danger of having a large portion of its business cut off in a short time. In order to supply a city with light it is necessary that a company shall invest large sums in plant and other equipment; its directors quite naturally do not like to tie up funds in this way without an assurance that the city will continue to be a customer for more than a very few years.[2] This is particularly true when contracts are based upon the understanding that the company shall provide the conduits, poles, lamps, reflectors, and all other equipment. When a contract comes to an end these things have very little value unless a new contract can be made. From many points of view it is advisable that all the equipment should be owned by the city. This greatly simplifies the making of a contract, which need then provide for gas or current only, not for equipment and service. It eliminates all difficulties and disagreements as to what sort of equipment shall be used, or how it shall be maintained, or when it shall be replaced. On the other hand the policy of owning the street-lighting equipment involves a large outlay on the city's part, with no assurance that it will get full value for what it buys.

[1] It should be borne in mind that a *contract* and a *franchise* are altogether different things. Franchises will be discussed in a later chapter. A public lighting company cannot operate without a franchise but it might have a franchise and yet not hold any contract with the city. Franchises are granted for long terms, and sometimes in perpetuity; lighting contracts rarely run for more than five, ten or fifteen years. Contracts often expire while the franchises run on.

[2] Occasionally a provision is made for renewing the contract upon its expiry, the terms of the new agreement to be fixed by arbitration.

In this as in other enterprises the city is altogether likely to become the purchaser of inferior materials, obtained at top-notch prices.

General and Detailed Specifications in Contracts.

In most of the larger American cities the lighting equipment is supplied and owned by the company which holds the contract. This makes it essential that the provisions of the contract, whenever a new one is made or an old one renewed, shall specify in detail just what standards of service the company shall maintain. To do this is not easy because so many points have to be covered—type and power of lamps, locating and relocating of poles, cleaning of lamps, allowances for outages, and so on. Many cities have gone on the principle that everything must be stated in the contract with the greatest precision, for otherwise the company will evade its obligation. But by so doing they have sometimes increased the cost of service needlessly and have throttled the company in the exercise of any discretion. These detailed stipulations, moreover, often defeat their own ends by precluding the use of new devices or methods which, although better and more economical, do not come within the phraseology of the contract. Some cities, on the other hand, have gone to the opposite extreme, contenting themselves with a general stipulation that so many lamps of a designated candle-power shall be placed wherever the city officials may order them and shall be paid for at a certain rate per annum. This way of doing things is as much open to criticism as the other. It opens the door for controversy and litigation between the contracting parties. When the city contracts for lamps of a certain candle-power it does not make sure of getting what it needs and wants, namely an adequate illumination of the street surface. The way in which the lamps are set, the quality of the globes and other fittings, the nature and arrangement of the reflectors—these are important in determining the illuminating efficiency of the street lamps. By careful attention to these accessories a lamp of a given candle-power can be made to render a greatly increased service. By disregarding them a substantial portion of the total light flux will be dissipated into space and render no public service whatever. Every ray of artificial light, wherever it goes, costs money. Every ray that goes where it is not needed represents a waste of money. Lighting contracts should avoid microscopic precision; on the other hand they should

not leave important matters to become the basis of future controversies.

The Arbitration of Disputes Arising in Connection With Public Lighting Contracts.

Appreciating the difficulty of striking a happy mean between these two extremes, some cities have tried the plan of confining the specifications to important things, leaving all questions of detail to be adjudicated, in case of disagreement, by some impartial authority. This may be an arbitrator, or a group of arbitrators, upon whom the city and the company agree in advance. A common arrangement in such cases is to provide that each party shall select one arbitrator, these two to choose the third. But in practice the settlement of controversies by arbitration has been found to be slow, expensive, and not very satisfactory to either side. A better plan is to designate some governmental body, such as the public service commission, to adjudicate all disputed points that may arise. This assumes, however, that the board or commission in question is of such integrity and competence that it possesses the full confidence of both parties—which, unhappily, is not always the case. The plan of leaving details to be adjusted as they arise, by some impartial body which possesses a thorough knowledge of lighting technique is intrinsically sound; but the practical difficulties are not always easy to surmount. The necessity of making any contract at all is avoided whenever the lighting plants are owned and operated by the municipality, but the question of municipal ownership is one that must be reserved for separate discussion a little later.

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# CHAPTER XL

## MUNICIPAL TRANSPORTATION

Urban Transit and City Growth.

One of the striking differences between the city of today and the city of half a century ago is to be seen in the greater rapidity with which people are now transported into it and out of it. The electric surface car, the elevated, the subway, and the motor bus are all the product of the past fifty years. Together they have worked a revolution in the methods of urban life. In the horse-car era it took an hour to go four or five miles; today our rapid transit facilities cover that distance in a quarter of the time. This means, of course, that powerful forces are at work in the direction of urban decentralization and that new scope is afforded for the growth of cities in their outer rings. Take the map of any large community and place one point of your calipers at the center of population; then draw a series of concentric circles a mile or two miles apart. You will find that population is increasing with relatively greater rapidity in each concentric ring as you move outward.

The Two Phases of the Municipal Transportation Problem.

Now when a community reaches the point at which large numbers of people are massed in these outer zones, the problem of urban transportation divides itself into two phases. First, there is the problem of transporting people from place to place within the city limits, over distances of one, two or three miles,—in other words the problem of strictly local transportation. Second, and much more difficult of solution, is the problem of metropolitan transit,—the problem of carrying people over much greater distances, in and out of the city, from the suburbs to the downtown areas and back again. Much of the murkiness which attends the popular discussion of municipal traction problems is the result of a failure to keep this distinction in mind. The same facilities are called upon to meet needs and conditions which are vastly different in character, and much fault is found because operations which are physically impossible do not happen to be well performed.

1. Local Transportation.

Let us look into this point a little farther. A system of local or short-haul transportation caters to the needs of people who live in the city proper, or in the immediate suburbs, and whose patronage of the service extends over relatively short distances. To some extent such needs are now met by taxi-cabs, motor busses, and jitney busses so-called, but the main dependence for local transportation is still placed upon the surface trolley. In order to be satisfactory to its patrons a system of local transportation must be ubiquitous, frequent, and cheap; it need not be rapid. It must be ubiquitous, that is, the car lines and car stops must be so located as to be within easy access of large numbers of people. The cars must pass within convenient range of the homes or factories of those who ride. The service must be frequent at all hours and especially so during certain hours of the day. And it must be cheap, for a considerable proportion of those who use the local service have the alternative of covering the distance afoot and many of the patrons will use this alternative if the fares go above a certain point.[1] The jitney bus also takes an increasing share of the local traffic when street railway fares go up. Rapidity, on the other hand, is not a prime desideratum in the case of local transportation, and indeed from the very nature of things it is not possible to harmonize rapid transit with ubiquity of service and frequency of stops. If a local service is to serve the greatest good of the greatest number it must therefore sacrifice rapidity to these other qualities.

2. Metropolitan Transit.

In the case of metropolitan or long-haul transit the emphasis shifts. Rapidity becomes a matter of prime concern. The service must be able to take people over considerable distances at high rates of speed, which means that it cannot let them on and off at every street corner. Nor can rapid transit lines be so placed as to pick up every passenger from the neighborhood of his own doorway. The patronage of a metropolitan or rapid transit serv-

[1] During the years 1919-1920, when car fares on American street railways were everywhere increased (and in some cases doubled) it was found that the short-haul traffic showed the greater falling-off. In Boston the average fare per passenger increased 82 per cent during the years 1917-1919. But the increase in gross passenger revenue was only 51 per cent. (These percentages have been verified for me by the Auditing Department of the Boston Elevated Railway.) For other cities see the tables printed in Delos F. Wilcox, *Analysis of the Electric Railway Problem* (New York, 1921), pp. 183-194. *Cf.* also *Ibid.*, p. 219.

ice is very unevenly distributed, moreover, being very heavy at certain hours and light at other times. The peak of the load runs higher than in the case of local transportation and the valleys of slack traffic extend deeper. Low fares, while desirable, are not imperative in the case of a rapid transit system because most of the traffic has no alternative but to pay the fare, whatever it may be. The man who lives three or four miles away from his work will not cover the distance on foot because the fare goes up from five to ten cents. As respects a certain portion of the traffic there is competition between the steam railroads and the street railway system, and to that extent the railroad commutation rates set the maximum above which the metropolitan service cannot go without losing patronage. To some extent, also, the suburbanite may have recourse to motor transportation when fares go up. But even with due allowance for these things the element of cheapness is by no means so vital in long-haul as in short-haul street railway traffic.

How the Needs of Each Are Met.

Here, then, is an essential difference between two phases of a city's transportation problem. Local transit can be based upon the use of the street surface; metropolitan transit cannot. The speed of cars which use the street surface is controlled by the nature and volume of the other traffic which has a right to be there. A system of rapid transit must therefore leave the surface of the streets and either go over or under them. Twenty years ago it was believed that the policy of elevating the tracks would solve this problem, but for reasons which will presently be stated this method of releasing traffic from the restraints of surface congestion has not proved altogether satisfactory. So resort is now being had to the other alternative, that of building subways under the streets. In a large city nowadays one will find motor buses, surface cars, elevated trains, subway trains, and the suburban lines of steam railroads all engaged in performing different portions of the same general function, which is that of carrying the people from place to place over shorter or longer distances at varying degrees of speed and expense. In no case are all these facilities under a single directing control; and to a very small degree are they so planned as to supplement rather than to interfere with one another. In this respect the cities of Europe are not a whit better off than those of the United States.

The Lack of Transportation Planning.

This is beyond doubt a serious misfortune, for although the two types of municipal transportation, local and metropolitan, are different in their nature, requirements, and problems, it does not follow that they should be separately planned or independently administered. The various traction needs of the community are interlaced to such an extent that the problem of meeting them can never be solved piecemeal. The surface lines must be articulated with the elevated and subway facilities or the entire transit mechanism will not function smoothly, at any rate it will not do so from the standpoint of the considerable number of passengers who have occasion to transfer from the one to the other. For this reason the same company is sometimes given control of both the local and rapid transit lines, usually under different franchises. In nearly every large city of Europe and America, however, the system of urban transportation represents the outcome of a wholly fortuitous and unplanned evolution, a growth by intermittent accretion and of extension by spasms. Not having been comprehensively planned, the facilities are not co-ordinated, and without co-ordination they fail to serve the public as the public thinks it should be served. The blame for inadequate or unsatisfactory service is then placed by public opinion upon the operating companies, whereas most of the trouble harks back to organic defects in the planning of the entire transportation system—a shortcoming for which the people, through their elective representatives, are themselves very largely responsible.

Who is to Blame for It?

There is no more striking illustration of that deficient foresight which characterizes the workings of popular government than the egregious mess into which the transportation systems of many large cities have been forced by the action or inaction of the public authorities. Street railway companies have been required by the terms of their franchises, or by the provisions of law, to lay their tracks on certain streets without regard to the efficiency of the service, but solely in response to neighborhood caprice. They have been virtually required to build subways in one direction and not in another; to put stations at this or that point, to charge a certain rate of fare and no more, to give free transfers without restrictions, to provide service of a stated frequency whether there be need for it or not, and to do many other things which have constituted an actual hind-

rance to the provision of adequate and economical service. This official intervention has been for the most part dictated by the pressure of political considerations and very rarely the outcome of mature study on the part of legislators familiar with the transportation problem.

How Transportation Facilities Have Evolved.

During the past three-quarters of a century urban transportation has passed through four stages of unequal duration. Until after 1850 no city either in Europe or in America made any public provision for transporting its people from place to place. There were stages, of course, which went from city to city as readers of Dickens will readily recall, and in some large communities like London and Paris these conveyances carried passengers from the outlying parishes into town or out again; but it was absolutely essential for the great majority of people to live within walking distance of their work.[1]

1. The Horse-Car Lines, 1850-1875.

It was not until 1852 that the first horse-car line was established in New York, but it proved popular from the start and within the next twenty-five years this method of passenger transportation found adoption in all the larger communities of Europe and America. These horse-car lines were built and operated by private companies under franchises which were given for long terms, sometimes in perpetuity. As the demand for the service increased, new companies were formed, so that in time it was not uncommon to find a half dozen or even a dozen companies operating in different sections of the same city. The small cars and the light rails were relatively inexpensive so that it was practicable for a company to engage in transportation on a small scale, its operations being sometimes confined to a single long street. But this multiplication of companies involved a heavy overhead expense and accordingly there soon took place a merging or consolidation of the various companies until eventually a single organization often managed to obtain control. This consolidating of the old horse-car lines was made the occasion for an inflation of capital and for other forms of financial jugglery which brought the traction interests under suspicion.

2. The Episode of the Cable-Cars, 1875-1885.

Such was the situation when the application of new motive

[1] In a few of the larger cities there were omnibuses which ran from one section to another, usually on an hourly schedule. There was an hourly 'bus service between Boston and Cambridge as early as 1849; the horse-car lines were not put into operation between these two cities until 1856.

power to the lines began during the years 1875-1885. From 1850 to 1875 horses and mules had the field to themselves, but the load upon this form of motive power kept increasing to a point where it could no longer be borne. The first competitor of the horse in street-car operation was the continuous cable, operated by steam power from a central plant and running in a conduit beneath the street surface. To this endless cable the car attached itself by means of a grip or clutch which was drawn along at a speed of six or eight miles an hour. The car was stopped by releasing the grip and applying the brakes; this innovation permitted the use of much larger cars than were common on horse-car lines. But there were technical difficulties. It required great skill on the part of the "gripman" to avoid disagreeable jolts in starting the car as the cable always kept running at uniform speed. Installation of the system was very expensive, for it included not only the tracks and cars but the conduits, cables, and power station. The cable-car system of transit proved to be short-lived. In several European and American cities large amounts of private capital were invested and speedily lost in these cable-car projects. New York, Chicago, and San Francisco tried the plan and abandoned it within a few years.[1] Cables, conduits, and cars went to the scrapheap, sometimes after use for less than a single year. No traction fortunes were made, and many were lost, in this ill-starred venture.

3. The Electric Surface Cars, 1885.

The speedy demise of the cable-car was due to the appearance of electric traction. Experiments with cable power and electric current had been carried on simultaneously during the late 'seventies but it was not until after 1880 that the electric railway first demonstrated its commercial possibilities, and not until 1884-1885 that the first regular electric road was operated in America.[2]

[1] Pittsburgh, Cincinnati, Washington, and Denver also installed cable-car systems. The Denver system, which cost about five million dollars, was scrapped within two years.

[2] The first experimental electric railway in any country was constructed by Siemens and Halske for the Berlin Exhibition of 1879. This was followed by the construction of a one-car line, a mile long, at Lichterfelde, near Berlin, in 1881. In the United States various electrical experts (including Cyrus W. Field, Thomas A. Edison and Frank J. Sprague) turned their attention to the matter with such success that several lines were soon in operation, the earliest of which were at Kansas City (1884-1885) and in Baltimore (1885). An interesting account of these beginnings, with instructive illustrations, is given in Frank J. Sprague's *Growth of Electric Railways*, published by American Electric Railway Association (1916).

The new system captivated the public imagination, for the new trolley-cars showed themselves capable of travelling at a speed of twenty miles or more per hour. During the years 1885-1890, accordingly, there was a clamor for electrification everywhere, and the horse-car companies which still held a strategic position by virtue of their unexpired franchises were able to ultilize this enthusiasm to their own advantage. As the price of electrifying their lines they did not fail to exact favorable terms from the city authorities.

Effects of the Change in Motive Power.

The change in motive power put a new face on the street railway problem. Stables gave place to power plants. Larger cars came into use, taking up more room in the streets. The new cars moved at a much more rapid pace, thus increasing the danger to street traffic. Heavier rails had to be laid and special foundations provided for them. The weight and jolting of the cars worked havoc with the asphalt pavements. Trolley poles had to be set in the sidewalks and wires strung over the middle of the street, thus contributing to the defacement of the thoroughfares. The amount of money invested, and hence the capitalization of the street car companies, had to be increased,—a circumstance which led to a recrudescence of stock-watering and other financial manipulation. The companies, with their operations extended and enlarged, became factors to be reckoned with in municipal and even in state politics, contributing to campaign funds, controlling legislators, and maintaining lobbies at the seats of legislation. Meanwhile the amount of traffic handled by the street railways underwent an extraordinary increase by reason of the greater speed with which it was now carried. In 1860 the horse-car lines of New York City carried about fifty million passengers; in 1890 the trolley cars (and a few surviving horse-cars) transported about half-a-billion; in 1919 the elevated, subway, and surface lines carried a total of more than two billion passengers.[1]

American Street Railway Systems of Today.

It is estimated that in 1920 there were about 45,000 miles of street railway track in the United States, of which about 60 per cent was located within the limits of cities and towns. This amounts to a mile of trackage for every 2500 people, which is a

[1] See D. F. Wilcox, *Municipal Franchises* (2 vols., New York, 1911), Vol. II, pp. 23-24, and the same author's *Analysis of the Electric Railway Problem* (New York, 1921), pp. 2-3.

far higher ratio than exists in any other country. Taken together, the electric railways of the United States carry more than ten times as many passengers as the steam railroads; but of course the average ride is very much shorter. Data collected by the United States Bureau of the Census of 1917 showed the net capitalization of all the electric railways of the country to be slightly under five billion dollars; that of the steam railroads is about four times as much, but the latter have a more than correspondingly greater mileage.[1]

**Street Railway Organization and Expansion.**

With improvements in the mechanism of street railway transportation, and with the building of .subways, the amount of capital required by each operating company has greatly increased. Hence there has been a good deal of linking up the smaller concerns into "systems." Some large financial concerns often control the street railways in several cities. Even yet, however, there are more than twelve hundred separate electric railway companies doing business in the United States. Down to 1910 the process of expansion in street railway facilities, and especially the building of inter-urban lines, went forward at a rapid pace; thereafter it began to slacken and during the past ten years there has been relatively little increase in trackage or plant. This is popularly attributed to the rapid growth of motor transportation, but in far greater degree it is due to the serious financial difficulties which nearly all the street railway companies have encountered during the past dozen years, through no fault of their own.

**Has Motor Competition Put an End to Street Railway Expansion?**

One sometimes hears the statement that the heyday of the electric railway is drawing to a close and that the increasing use of passenger automobiles will not only preclude any further expansion but will ultimately drive the street railway out of business. The experience of the past ten years does not afford warrant for any such assertion. During these years the automobiles have increased in number enormously, nevertheless the street railways carried more passengers per mile in this decade than in the one preceding—more by a large margin. The demand for street railway service is greater today in all countries than

[1] The Census Bureau's figures do not include, under the head of electric railway mileage or capitalization, those portions of steam railroad lines that have been electrified, such as the New York City Division of the New York Central Railroad.

it has been at any previous time, and it is a demand that shows no sign of slackening. The competition of motor busses, operating in the same area, has in some cases reduced the number of street railway passengers per mile, just as any other form of direct competition would be likely to do; but the general use of the automobile has not been a blow to electric transportation. The business man, with a motor car at his service, can now live farther away from the heart of the city and be independent of the rails. But his household employees continue to use the street cars. The automobile has helped develop the riding habit among the people and is indirectly stimulating the street railway patronage.[1]

**Relation of Street Railway Traffic to Population.**

It is an axiom of transportation that the need for increased facilities grows more rapidly than the growth of population. The bigger the city, in other words, the more street railway traffic there is per thousand of population. In a city of a million people it has been estimated that under ordinary conditions there will be about two hundred paid fares per annum for every head of population; but in a city of five million there will be about four hundred paid fares per capita.[2] Owing to the natural limitations upon the number of cars which can be operated in the city streets this means, of course, that when the population of a community reaches a certain point (which can hardly be determined by any general rule), transit facilities independent of the street surface must be provided. The largest cities are the first to be driven to this, particularly the cities of two millions and upward. London, New York, Paris, Chicago, and Berlin were all compelled many years ago to inaugurate the plan of divorcing a part of their street railway traffic from the street surface. London, because her streets were too narrow for elevated structures, had no alternative but to build underground "tubes" or subways. Paris, although provided with sufficiently wide thoroughfares, chose subways for æsthetic reasons. Berlin has used both elevated structures and subways; the same policy has been pursued by New York, Boston, and some other American cities.

[1] See the testimony of Mr. Henry G. Bradlee, President of the Stone and Webster Corporation, submitted to the Federal Electric Railways Commission, October, 1919, printed in *Proceedings of the Federal Electric Railways Commission* (3 vols., Washington, 1920), pp. 204-205.

[2] Bion J. Arnold, *Report on Pittsburgh Transportation Problems*, p. 74. In New York City today the figure is over 400 revenue rides per capita.

The Elevated System of Rapid Transit.

The elevated system of rapid transit has only one merit—it is cheaper than any other plan. As against the merit of economy there is the obstruction to surface traffic caused by the pillars which support the structure, the noise, and the unsightliness. The experience of American cities has demonstrated, moreover, that in thickly-built sections the economy is not so great as was first anticipated. Owners of private property on both sides of the street put in their claims for heavy damages whenever an elevated road is constructed, and the cost of liquidating these damages, including the expense of numerous lawsuits, is very great. Considered simply as an engineering enterprise, it costs a great deal less to elevate the tracks than to place them underground; but the damages to private property are much heavier in the former case and this, to some extent, offsets the difference in costs of construction.[1] The damage to *public* property, to the street, and to the general appearance of the neighborhood, does not have to be paid for in dollars and cents; but it ought to be taken into account none the less. All things considered, there is a probability that the policy of building elevated structures for rapid transit has passed its crest and that so far as the close-in sections of the cities are concerned no more of them will be constructed. It is even within the bounds of possibility that those which now stand on the congested streets will in time be removed. The indications are that all in-town rapid transit will hereafter be based upon subways. In the outer reaches of the large city, however, the elevated will doubtless continue to hold its own. The monetary damage to private prop-

[1] It is impossible to give even approximate figures of cost per mile for either elevated or subway construction. The conditions under which such work is done are never alike in any two cases. In New York City it has been found that subways cost from three to four times as much, on the average, as elevated structures. William Barclay Parsons, formerly chief engineer of the New York Rapid Transit Board, estimated in 1912 that a mile of single track surface line (exclusive of equipment) cost about $50,000; a single track elevated (exclusive of equipment and abuttal damages) cost $250,000; and a mile of single track subway (also exclusive of equipment) cost about $1,000,000. Today these figures would be very much higher. A single-track subway would have to earn, therefore, at least $60,000 per mile per annum for interest charges alone. Various statistics relating to rapid transit construction and operation are given in *Municipal Reference Bulletin No. 3* of the Chicago Municipal Reference Library entitled *A Study of Rapid Transit in Seven Cities*. For somewhat different figures see F. W. Doolittle, *Studies in the Cost of Urban Transportation Service* (New York, 1916), p. 336.

erty amounts to less in these sections for the reason that property is not so valuable. The cost of providing underground transit over long and thinly-populated stretches is prohibitive.

Subways and Rapid Transit.

The question whether a subway can be profitably built and operated by any transportation company is entirely a matter of the amount of traffic waiting to be carried, and this, again, depends upon the population of the region traversed. The cost of carrying a passenger is made up of two factors—overhead or fixed charges, and operating or current charges. The first include interest on the capital invested in the street railway plant, depreciation, and all the other expenses which must be borne whether the amount of traffic be large or small. Operating charges, on the other hand (including wages, the cost of supplying power to the cars, and so on), vary with the volume of traffic. Now the situation as respects the relative cost of surface and subway transit is simply this: The overhead cost per passenger-mile in the case of surface traffic is less; the operating cost is more.[1] The operating cost per passenger-mile on the surface may be double or more than double what it is in the subway. The reason for this will become apparent on a moment's reflection. Subway cars are usually run in trains, with a consequent saving in the wages of motormen and conductors; they travel at higher speed, hence the same rolling-stock can carry more passengers per hour; and there are no time-consuming stops at every street corner. This economy of operation is such that even the most expensive subway can be profitably operated if there is enough traffic to employ its full capacity or nearly so.

The Uneven Distribution of Street Railway Traffic by Hours.

The fact is, however, that rapid-transit facilities are nowhere used to their full capacity except at certain hours of the day, and not always even then. For at least eighteen hours out of every twenty-four they average much less than their potential load. In ordinary street railway service a very large proportion of the traffic flows toward and away from the central business district. The greatest concentration of passengers comes between the hours of 7 to 9 A.M. and 4 to 6 P.M., more particularly in the latter interval. The peak of the load in

[1] By "cost per passenger-mile" is meant the cost, on the average, of carrying one passenger one mile. Occasionally the reckoning is made in cost "per car-mile." In the case of freight the cost-unit is per "ton-mile." Various analyses of cost are given in F. W. Doolittle, *Studies in the Cost of Urban Transportation Service* (New York, 1916), especially Ch. iii.

street railway traffic is usually reached in the late afternoon hours of the days preceding Christmas. It is not uncommon for a rapid transit system to carry as much as forty per cent of its entire day's traffic during four hours out of the twenty-four. People who rarely or never use the cars except for the purpose of going to and from their work get the idea that the cars are always crowded to capacity. But when the crowds are averaged over the whole working day the figures of traffic tell a very different story. Averaging all the runs on all lines, there are many more seats than passengers.

**The Uniform Fare on Street Railways.**

Some of the most difficult problems in street railway operation arise from the fact that the rate of fare is, with few exceptions, unrelated to the amount of service which the passenger receives. In this respect the street railway differs from every other public utility. Gas and electricity are sold by meter; the customer pays for what he uses; there are no flat rates. Water is now sold similarly; the plan of charging a lump sum per annum is being everywhere abandoned. The telephone companies are also charging according to measured service in most cities, and it is only a matter of time before that will be the practice everywhere. Steam railroads base their rates on mileage; they have always done so. If you were to propose that they charge every passenger a dollar and let him ride as far as he pleased, you would give people a poor opinion of your intelligence. Even parcel-post rates are on a zone basis. In practically all public utilities, therefore, service and charges are related and proportioned; the only important exceptions are street car fares and letter postage. And the business of carrying letters, by the way, is conducted in the United States at a loss.

**Its Origin and History.**

The use of the uniform fare on American street railways is the outcome of an accident, fortified by habit. When horse-car lines were established in America the maximum ride did not exceed a mile or two, and the fare was placed at five cents. No attempt was made to grade the fares according to distance because of the inconvenience that would have been involved in making change. Then came the electrification of the lines and their extension over greater distances. The average ride per passenger became a good deal longer. But the uniform five-cent fare had become a tradition and the companies did not venture to alter it even where the terms of their franchises permitted

them to do so, which was not often. They hoped, and to some extent their hopes were justified, that economies in operation would offset the lengthening ride per passenger. The slogan of "one city, one fare" remained popular; five cents a ride and free transfers became the general rule. Even with the introduction of rapid transit facilities, and the extension of the service to cover as much as eight or ten miles, the five-cent fare held firm, although its continuance could no longer be justified on any ground of economic justice either to passengers or company. It was not until a half-dozen years ago that the steadily-mounting costs of labor and materials made impossible, in most American cities, the maintenance of the traditional rate without loss to the operating companies. Hence an increase to six, seven, or even to ten cents has been made in many places. But at whatever price fixed, the fare continues to be uniform save in a few exceptional instances. The passenger, whether he rides one mile or five, usually pays the same amount.

**Is the Uniform Fare Just to the Company or to Its Passengers?**

This policy of holding to a uniform fare is unjust to the carrier and even more unjust to its patrons. The cost of supplying a house with electricity depends on the amount of current used. The cost of carrying a passenger varies directly with the distance travelled. In this respect the street railway does not differ from the railroad. It is estimated that under present conditions of cost and service an American street railway company breaks even on the passenger who rides two and a fraction miles in a surface car and pays a nickel for it. The situation differs somewhat from city to city; but it may be set down as a general rule that in no American city does the street car service fail to make money on the short-ride passenger or fail to lose money on the one who uses the road over long distances. In New York it is now possible to ride more than twenty miles for a single five-cent fare, and a very considerable portion of the traffic in all large cities is carried over distances ranging from three to ten miles.[1] This means, of course, that short-haul traffic is being compelled to pay more than its proper share of transportation costs while the long-haul traffic gets off too easily. It means

[1] No exact figures can be given because the length of ride per passenger, when free transfers are in use, cannot be computed. Some statistics have been compiled by special traffic investigators on a basis of enquiries made from selected groups of passengers, but they are hardly to be depended upon.

also that the probabilities of loss or profit to the operating company depend very largely on the relative proportions of the long-haul and short-haul traffic, and this, again, is bound up with the fact that the suburbs are growing more rapidly than the inlying areas.[1] It was originally anticipated that the number of short-distance passengers would increase in proportion to the long-haul or suburban riders; but hardly anywhere has this been the case.

**The Uniform Fare Leads to Financial Difficulties.**

Here is the tap root of the financial difficulties with which practically all American street railways have had to contend during the past dozen years. The war and its aftermath have only aggravated the trouble and brought it to a head more quickly; they were not the prime causes of it. The simple fact is that the most rapid growth of population is in the outlying sections or outer suburbs of cities, not in their downtown areas. This being the case, the amount of long-distance traffic is everywhere increasing more rapidly than the amount of local or short-haul traffic. In other words the street railway companies are finding an ever-increasing percentage of passengers to be carried at a loss. And that will inexorably be the case so long as they are required to maintain fixed fares in steadily expanding communities. Raising the fare gives only temporary relief so long as the fare remains uniform; it does not solve the problem of establishing a relation between what the passenger pays and what he gets. The fact that the street railways of Great Britain, whether publicly or privately owned, have been able to come through the past ten years without financial mishap is undoubtedly due in large part to their system of adjusting fares to length of ride.

**The Zone-Fare System in European Cities.**

In most European cities the practice has been to fix the fares according to stated distances or zones.[2] The street railway system of Glasgow, which is owned and operated by the city, for example, maintains a scale of fares ranging from one penny for distances of about a mile to eight pence for the longest ride on the system, which is about twelve miles. The distribution of traffic is such that more than 60 per cent of it is carried within the penny zone. In the other cities of Great Britain, France,

[1] See *above*, p. 371.

[2] For some examples see W. H. Dawson, *Municipal Life and Government in Germany* (New York, 1914), p. 239.

and Germany a somewhat similar zone-fare system is maintained, and this irrespective of whether the street railways are operated by the municipality or by private companies. Under this system free transfers are not usually given.[1] It has been found by investigation that the average passenger on the British tramways rides a distance of less than two miles; in American cities the average (so far as it can be estimated) is about three miles. The uniform-fare plan has the virtue of simplicity; there is no need for dividing each route into zones and punching tickets for each stage; the fares can be collected more quickly, and the passenger runs no risk of paying too much by reason of his not knowing where the zones begin and end.

**Objections to the Zone-Fare System.**

The zone-fare system, while it may seem more equitable both to the company and the passengers, is open to some serious objections. There is reason to believe that it has contributed to the acute congestion of European cities. In order to lie within the penny-zone the British workman crowds into areas that are already overcrowded. Whatever the defects of the American flat-fare system it has undoubtedly operated to promote the growth of suburbs and to place a check upon the overcrowding of the downtown regions. It has enhanced the usefulness of outlying land and made it available for home-building by people whose work brings them towards the center of the city each day. Land which lies within the single-fare radius is worth more, on the average, than land which lies beyond.

**Are these Features Exaggerated?**

It is very easy, however, to exaggerate the influence of the zone-fare system upon overcrowding in European cities. The difference between the relative compactness of European and American cities can hardly be altogether due, as some writers believe, to the influence of street-railway fares. European cities have always shown a tendency to build up compactly; they displayed this inclination long before the days of tramways and zone fares. American communities, on the other hand, have had sprawling proclivities from their very earliest days. It has not escaped observation, moreover, that when European immigrants come to the United States, and settle in the cities, they usually

[1] In the few cases where transfers are given it is because of special conditions and their use is limited to certain routes. Taking 163 British tramways, only 23 issue transfers covering the whole system, and 107 issue none at all. In German cities a small charge is almost invariably made for transfers.

crowd into some central district and stay there; they do not scatter through the suburbs even under the inspiration of the uniform fare. At the same time the difference in street-railway-fare policy has undoubtedly had some influence in promoting congestion abroad and in alleviating it here.[1]

Combining the Zone-Fare and Uniform Fare Plans.

Having used the uniform fare plan for so long a period, it is now practically impossible to supplant it in American cities even were it deemed desirable to do so. Property values have adjusted themselves to the existing situation and the adoption of a zone-fare system would disarrange them badly. Where the introduction of the European plan has been proposed it has invariably encountered violent popular opposition. In some American cities, however, the plan of having two or more five-cent zones, or an inner and an outer zone with different rates of fare, is now being given a trial,—with what success cannot yet be determined although the outlook does not seem promising.[2] In some other cities the street car companies have adopted the plan of designating certain short routes or runs on which a reduced fare is charged, while a uniformly higher fare is charged on the longer routes. It may be that some permanent modification of the uniform fare system may be brought to pass in this way. But in any event the flat-rate plan has been carried to an absurd point in many American cities, in New York for example. In many instances it has profited the real estate speculators far more than the companies, the passengers, or the community.

[1] The Committee on Zone Systems appointed by the American Electric Railway Association, in its report of 1919, had this to say on the subject: "It has been widely claimed that zone-fare systems produce congestion of population. If this were true, this congestion would be more highly developed with this form than with any other, but the facts are that foreign cities using this form are not really congested to any greater degree than many of our flat-rate American cities. The tendency, however, in European cities is toward a more even spreading of the occupied territory rather than to the uneconomical, haphazard, and spotted development so frequently found surrounding our cities; it is probable that the zone system, in contrast to the flat rate, has something to do with this, thus changing the sociological argument to favor the zone system."

[2] There is a long discussion of this matter in Delos F. Wilcox, *Analysis of the Electric Railway Problem* (New York, 1921), pp. 218-243. Books of tickets for general use are also sold at reduced rates in some cases. The street railways of some European cities, notably in Germany, have for many years been accustomed to sell passenger-passes good for a week or a month but not usable by anyone except the purchaser. Experiments with transferable weekly or monthly passes are now being made in a few American cities, notably in Chicago.

Street Railways and the Labor Problem.

The wages of labor form the largest element in the cost of street railway operation. For the amount of skill and experience required the level of wages paid by American street railways is relatively high.[1] The work of conductors and motormen necessitates a comparatively small amount of education or of special training, far less than that involved in any of the skilled trades. But the rate of wages has been held up by two factors, the thorough organization of the employees and the high degree of public inconvenience which can be brought about by a strike. The street railway employees, like the workers on the steam railroads, are virtually in a position to dictate their own wages and terms of employment. As respects the labor problem, therefore, the existing situation contains large possibilities of future trouble, not only for the owners of the street railways but for the general public who depend upon this form of transportation.

Strikes and Tie-ups.

From the public's point of view it is intolerable that any body of men, whether owners or employers, should possess the privilege of halting an essential public utility as a means of promoting their own special interests. The street railway employees of the United States number about 300,000 in all.[2] They directly serve a population of over fifty millions. The ratio is one to one hundred and sixty. It is inconceivable that any democratic society can be safely and permanently based upon the principle that one man's interests, however important they may seem to him, shall outweigh the wellbeing of a hundred and sixty others. The public cannot afford to have essential industries cease whether it be from the arrogance of capital or the perverseness of labor. Continuity of operation is in the interest of workers, owners, and public alike; for when a strike comes the workers lose their pay, the owners lose their profits, and the public loses its service. There can be no inherent right of any body of men to wage private warfare at the public expense. Labor is solidly, and quite naturally, opposed to anything which limits the right to strike; but even this right must defer, if need be, to social control. Nothing much can be gained, however, by a

[1] On some of the street railways in the larger cities the initial rate of pay for conductors and motormen is from sixty-five to seventy cents per hour, with periodical increases.

[2] A bulletin on *Street Railway Employment in the United States* was compiled and published by the United States Bureau of Labor Statistics in 1917.

stroke of the pen prohibiting strikes on street railways. It will be necessary, if the right to strike is limited, to give the worker a fair equivalent. This can best be done, perhaps, by the establishment of an official tribunal or adjudicating body which will protect the legitimate interests of the worker, the owner, and the public impartially. The day when an individual citizen could exact redress in his own way for any asserted injustice has long gone by. The established tribunals of justice now determine the matter for him. The same should apply to bodies of men insofar as their actions concern the security and convenience of the whole community.[1]

**Special Fares for Workmen and Children.**

Both in European and American cities it is a common practice to make special rates for workmen and for school children during certain hours of the day. This may take the form of a lower fare per ride or it may involve the selling of books containing so many special tickets. Such concessions are difficult to limit. The distinction between a workman and anyone else is not easy to draw. A special rate to school children means that all persons under the maximum age ride at the reduced rate during the hours assigned. Where a street railway carries any class of passengers at reduced rates this merely means that other classes of passengers must make good the difference. The reduction does not come out of the company's profits. Fundamentally there is no more reason for giving the workman reduced fares on the street cars than for supplying his home with water, gas, or electricity at cut prices. The same is true of the custom by which policemen, firemen, and sometimes other city officials are permitted to ride free. The less privileged passengers pay for it.

**Jitney Competition.**

One of the problems of the American street railway in recent years is that of meeting the competition of motor-busses, especially the "jitneys" as they are colloquially called.[2] These motor vehicles are fitted up to carry from four to forty passengers, and often traverse the very same streets as the trolleys. In this competition they enjoy great advantages, having no pavements to lay and maintain, no tracks and trolley wires to keep in repair,

[1] The discussion of "The Right to Strike" in Delos F. Wilcox's *Analysis of the Electric Railway Problem* (New York, 1921), pp. 541-563 is well worth reading.

[2] These busses began their competition in western cities where the popular designation of the nickel, or five-cent coin, is "a jitney."

and no franchise taxes to pay. They feel under no obligation to maintain service when weather conditions are bad, or to pay their employees the standard rate of wages, or to assume bonded liability for accidents. They give no transfers, no reduced rates, no special concessions to anyone. They pick off the cream of the traffic, the short-haul traffic. Their five-cent routes rarely extend over more than two or three miles; beyond that stretch they charge according to distance. Hence their operations have cut into the street car earnings, for they make a specialty of the profitable routes, leaving the street railway alone wherever the passengers are few and far between.[1]

**Regulating the Jitneys.**

The injustice of all this was not quickly brought home to the minds of the people, many of whom were shortsighted enough to imagine that the merry competition between cars and jitneys would redound wholly to the advantage of the public. It presently became evident, however, that by virtue of the rivalry the citizens were in a fair way to get satisfactory service from neither source. The street railways finding their patronage reduced, felt obliged to run fewer cars and at less frequent intervals. On routes having a small patronage they installed, in many cases, one-man cars. This action, by the way, aroused a considerable amount of opposition among street railway employees and efforts were at once made to obtain legislation prohibiting or limiting the use of these smaller conveyances. On some of the least profitable routes the companies began to abandon the service altogether. The motor busses, not desiring to take any but the most profitable routes, failed to make good the deficiency. Whereupon municipal authorities found it desirable, in the public interest, to place some restrictions upon jitney competition and to subject these vehicles to strict regulation. Jitney ordinances, so-termed, have been enacted in many cities during recent years.

[1] The extent and seriousness of this competition are indicated by the figures given in the *Proceedings of the Federal Electric Railways Commission* (3 vols., Washington, 1920), p. 428, which show that in some cities the jitneys carry more passengers than the street railways and that practically all their traffic is over a distance less than three miles. To some extent the street railways have been able to recover traffic by the use of one-man cars operated at low fares and by themselves engaging in the jitney business. During the past few years they have begun to do this on an extensive scale. See the article on "The Place of the Motor Bus" by Walter Jackson, in the *National Municipal Review*, Vol. XI, pp. 362-372 (November, 1922).

They usually provide that the routes shall be designated by some municipal official, that regular schedules shall be maintained, and that bonds shall be filed to ensure the legal accountability of the jitney owners in case of suits for damages. But in spite of these restrictions the competition of the motor bus is still a serious factor in the financial difficulties which confront the street railways of the United States—so much so that many of them are beginning to buy out and operate the bus services themselves.

**Street Railway Franchises.**

Street railways are not permitted to use the streets, whether for surface-cars, elevated structures, or subways, save under the terms of franchises granted to them by the public authorities. In earlier days these franchises were always granted by the municipal councils and extended only to the city limits. A company operating in several adjoining municipalities would thus have several franchises, all of them different in their terms and all expiring at different dates. This naturally led to complications and often produced a situation which was unsatisfactory both to the company and to the public. The state legislatures accordingly stepped in and assumed general supervision of the franchise-granting power. In some instances they took over the enfranchisement and regulation of street railways as a state function. To make matters even more complicated, the people of the states have in some cases amended their state constitutions so as to restrict the legislature's power with respect to local franchises. At any rate a street railway franchise is nowadays a long and complicated document, sometimes a series of documents,—including statutes, ordinances and company votes.[1] The enforcement of its provisions is usually committed to a state board, as will be explained in the next chapter.

**The Taxation of Street Railways.**

The burden of taxation upon street railways has been onerous. In return for their franchise privileges the companies have had to make large contributions to the state and municipal tax-gatherers. The public authorities have looked upon themselves as silent partners, entitled to a fair share in what they believed to be a very profitable enterprise. The methods of levying upon the roads are various; sometimes there is an assessment of so

[1] For a discussion of this subject see the supplement to the *National Municipal Review* (Vol. IX, No. 4), entitled *A Correct Public Policy Toward the Street Railway Problem* (April, 1920).

much per annum for every mile of track or every car used, but more often the annual payment is based upon the value of the company's real and personal estate, or capital stock, or franchises, or gross or net earnings. Specific taxes (such as so much per car or per mile of track) should be avoided; they are a deterrent to an expansion of the service. When a street railway company operates in more than one municipality, as it usually does, it is impracticable for each city or town to levy upon that portion of it which lies within its own bounds. To get at the proper value or earnings for taxation one must take the road as a unit, as a going concern. It is also desirable that the same company should not be taxed on a different basis in different communities. For these reasons it is usually best to let the state do the taxing with the provision that the proceeds will be distributed on some equitable basis among the municipalities in which the street railway operates.[1]

**Paving and Other Imposts.**

Many people seem to think that the more the city can squeeze out of the street railway company by way of taxes, imposts, and other obligations the better it is for all except the company's stockholders. Accordingly it has been a common practice to saddle the company with the cost of paving the street space between its tracks, and removing the snow therefrom, also with a share of the cost of bridges used by the cars. Now it ought to be an elementary proposition that this is merely a way of shifting a burden from the taxpayer to the car-rider, and not to the street-railway stockholder. Hence it is merely a figure of speech to say that "the company" pays for the paving or the snow removal. All the income of the street railway comes from the people; all assessments levied upon it are paid by the people; whether they are paid in the form of taxes or fares makes little difference. It is merely a matter of nomenclature and bookkeeping. In 1918 it was found that nearly nine per cent of the gross earnings of all street railways in the United States went to pay taxes and other public imposts. Today the percentage is probably higher. If street railways were free from taxation, fares would be lower; if they are taxed more heavily, fares will increase. There is need for a recasting of the whole system of street railway taxation.[2]

[1] See *below*, pp. 460-464.

[2] On this point Professor Charles J. Bullock, in his testimony before the

Service at Cost.

During the years of the World War, and immediately thereafter, most of the street railways in the United States encountered a financial *impasse*. By the terms of their franchises they were required to carry passengers at a uniform five-cent fare and usually to give free transfers. On the other hand, the wages of the motormen and conductors had to be greatly increased, while the cost of cars, tracks, wires, poles, fuel for power, and all other supplies went up correspondingly. With huge deficits looming into view the companies went to the state and city authorities seeking relief. Out of these negotiations they obtained, in some cases, the right to charge a higher fare, usually six, seven, or even ten cents.[1] In other instances the street railway fares were placed on what has come to be known as a "service at cost" basis. By this is meant an arrangement whereby the rate of fare is automatically adjusted to the total expense of providing the service, including four principal items, namely, (*a*) ordinary operating and maintenance cost, (*b*) taxes and other public imposts, (*c*) allowances for depreciation of the property, and (*d*) a stated return upon the investment which the street railways represent. Under this plan the transportation may be taken in hand and directly operated by the public authorities (the stockholders being ousted from any voice in the management), or the management may be left in the hands of the company subject to strict official supervision. The former is the arrangement in Boston, the latter in Cleveland.[2]

Its Methods, Merits and Defects.

The relative merits and defects of the service-at-cost plan have been widely discussed, but its workings have not yet been sufficiently extensive or long enough continued to warrant any fair appraisement. Fundamentally it is a sound principle that the passenger should get what he pays for and pay for what he gets. But when it comes to determining what the cost of providing street railway service really is, or ought to be, there

Federal Electric Railways Commission in 1919 (*Proceedings*, pp. 644-645), made some suggestions which it is impracticable to summarize here but which should be studied by anyone who is interested in the taxation phases of the street railway problem.

[1] The average fare on all American street railways at the beginning of 1923 was 7.7 cents.

[2] The street railways are also operated on a service-at-cost basis in several other American cities, including Cincinnati, Dallas, and Indianapolis. Proposals to adopt the plan have been rejected in several other cities, for example in Chicago, Denver, and Minneapolis.

is room for wide differences of opinion. If the management is left in the hands of the company, there is no strong incentive to reduce expenses; the stockholders get the same return no matter whether expenses go up or down. On the other hand there is a strong temptation to spend money, under color of maintenance charges, in actually improving the property, since these improvements increase its value to the stockholders. In Cleveland a street railroad department is maintained by the city to supervise the company's expenses and depreciation allowances as well as to prescribe the quality and quantity of service. The commissioner in charge of this department is assisted by a large staff which inspects, audits, verifies, and checks everything that the company does.[1] Apparently this close combination of company management and city supervision has worked satisfactorily in Cleveland although the opportunities for friction and an evasion of responsibility are manifest enough.

**The Cleveland Plan.**

In Boston and the surrounding district the street railway system was in 1918 turned over by its owners to the State of Massachusetts under the terms of the Public Control Act.[2] The stockholders were guaranteed a fixed dividend. Five trustees were appointed by the governor and this board of public trustees was given absolute control over the management and operation of the street railway, including all surface, elevated, and subway lines. By the terms of the act, they were directed to fix the fares at such point as would enable them to cover all fixed and operating expenses, taxes, and imposts, together with a reserve for depreciation. If, in spite of their endeavor to do this, a deficit should result they were directed to apportion such deficiency as a tax upon the various cities and towns served by the street railway system.[3]

**The Boston Plan.**

The Boston plan has the merit of centralizing control and

[1] "Not a bottle of ink is bought without the city passing on it and approving it first." Fielder Sanders, City Street Railroad Commissioner of Cleveland, in *National Municipal Review*, February, 1921, p. 131.

[2] *Acts and Resolves of Massachusetts* (1918), Ch. 159. This Act provides that the State may turn back the street railway to its owners at the expiration of ten years, or at any time thereafter, by giving two years' notice.

[3] In spite of successive increases in the rate of fares there was a deficit of nearly four million dollars during the first year of public operation and this was assessed as provided in the act. Since 1920, however, the trustees have been able to earn a surplus and this has been distributed to the cities and towns on the same basis.

responsibility, leaving no room for friction or controversy between the owners of the street railway on the one hand and the public authorities on the other hand. Due to the fact that capable trustees have been appointed the system has thus far been well managed. In some respects it is better managed than it was under private control, as various indices of efficiency prove. Under direct public management, however, the pressure of political considerations is bound to be felt in time. There is no reason to suppose that a state or municipal board of street railway trustees will in the long run represent a higher standard of ability or non-partisanship than public boards of any other type.

Municipal Aid to Street Railways.

Already it has become apparent that there is little hope of getting back to a general five-cent fare so long as street railways have to make both ends meet without a subsidy from the public treasury. It has been proposed, therefore, that the city, from its tax revenues, should make good whatever deficit may result from the operation of the street railways at low rates of fare, in other words, that service should be given to the public at less than cost. "The city maintains the streets," argues the demagogue, "and charges nobody for using them. Very well, it ought to apply the same rule to car tracks, subways, and elevated structures. If this overhead expense of providing street railway service were defrayed out of taxes (as in the case of streets), there would be no need for a fare higher than five cents." In a sense this argument is sound. So far as the ultimate incidence of the burden is concerned it does not make a world of difference whether the fares are higher, with no deficit to be made up out of taxes, or lower with a deficit in proportion. Taxes, like fares, are ultimately paid by the people who ride in the cars, for they are virtually all the people. The passenger who thinks that he would gain from a reduction of fares and an increase of taxes is only deceiving himself.[1] The chief objection to the plan, indeed, lies in this encouragement to self-deception. It is bad policy to encourage among the people any idea that they can get service without paying what it costs. One of the serious practical objections to service-at-cost is the likelihood that the politicians will utilize it as a prelude to service at less than cost.

[1] See *below*, pp. 456-457.

Municipal Ownership of Street Railways.

The street railway is an essential public industry and some method of ensuring its continuous and economical operation must be devised. Various schemes for achieving this end are now being tried; it remains to be seen whether they will solve the problem. There remains a final alternative, the plan of direct ownership and operation of the street railways by the municipal authorities. European cities have had a long and extensive experience in this field; American cities have had none at all until recent years and very little even then.[1] Whether any solution of the problem can reasonably be expected from an extension of public ownership is a question which must be left for consideration in another chapter.

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[1] San Francisco, the American pioneer in this field, now operates about 65 miles of trackage, Seattle about 200 miles and Detroit about 275 miles. For data on the inauguration of municipal ownership of street railways in these three cities see M. M. O'Shaughnessy and J. Hoyt, "San Francisco Municipal Railways from Two Viewpoints" in *National Municipal Review,* Vol. X, pp. 417-422 (1921); F. W. Catlett, "Municipal Ownership in Seattle," in *Ibid.,* Vol. IX, pp. 545-553 (1920); C. M. Fassett, "Seattle's Experience," in *Ibid.,* Vol. X, pp. 134-139 (1921); R. Schramm, "Detroit takes over its Street Railways," in *Ibid.,* Vol. XI, pp. 186-191 (1922).

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Some other references are given at the close of chapters XLI-XLII.

# CHAPTER XLI

## THE REGULATION OF MUNICIPAL UTILITIES

A Question That Has Been Argued With too Much Animosity.

The proper relation of the city to its public utilities (including gas and electric plants, the telephone service, and street railways) has been the theme of a sustained controversy, both in Europe and America, for many years. Much has been written about it, but not always in a dispassionate or scientific spirit. The question is one upon which well-informed men differ in good faith, if not always in good temper. The reason for this is that most of them have been disposed to look upon the issue as one of principle rather than of practical expediency, and it is the habit of men to get wrought up on questions of principle. Yet the issue is merely one of deciding what is most expedient to do under certain circumstances, not what is best to do under all circumstances. In every large community there are certain public needs which must be met, and there are alternative ways of meeting them. Which of these alternatives is likely to prove the better depends upon the existing conditions in each particular case; the question cannot be decided by coining a phrase or enunciating a truism. In the discussion of public utility questions there has been too much heat and not enough light, too much brushing aside of awkward facts and too little exercise of patience in analyzing them. It may be well, therefore, to begin this chapter with a re-statement of some elementary propositions which ought to be kept in mind but which are too often submerged in the ardor of controversy. This may best be done, perhaps, by raising and answering a few preliminary enquiries.

Public Utilities Defined.

First of all, what is a public utility? Not every service upon which the public depends for its existence is a public utility. Bread and meat are essential to existence, but the bakery and the meat market are not public utilities. A public utility is an enterprise which, though under private ownership, makes use of public property and is a natural monopoly. The chief pub-

lic utilities operating in cities are railroads, street railways, telegraph and telephone lines, water works, gas plants, and electric lighting plants. All of them find it necessary to use property which belongs to the whole people. A railroad must run its tracks across the highway; a gas company must lay its pipes beneath the pavements; an electric lighting company must put some of its poles in the streets; a street railway company, as its name implies, must make large use of the public thoroughfares. Moreover, they all desire the right to take whatever private property they may need for their terminals, power houses, tanks, and so on, which is a right that only the governmental authorities can give.[1] The right of eminent domain cannot be exercised except for a public purpose. In this legal sense all the utilities named above are *public* utilities. They exist by public authorization and sufferance. Public utilities have sometimes been defined as undertakings which are "clothed with a public interest," but this definition merely begs a lot of questions as to when, where, and how an enterprise becomes so clothed. The most characteristic earmark of a public utility is its possession of special privileges in relation to public property.

1. Their Legal Characteristics.

2. Their Economic Characteristics.

But public utilities are differentiated from ordinary business enterprises in an economic as well as in a legal sense, and this prompts a second question. Why does the regulation of a public utility constitute a different problem from the regulation of any other form of business? The answer to this question is simple: It is because competition operates in one case and not in the other. In the case of ordinary business, competition is a spur to reasonable prices and good service. The customer who finds prices high or service poor at one grocery stops trading there and goes somewhere else. The merchant who is not satisfied with one bank moves his account to another. The wholesale dealer, if one factory does not send his goods promptly, or charges him too much, gives his future orders to some other factory. Stores, banks, and factories are in competition with other establishments of their own kind; in order to get business they are constantly trying to outstrip their competitors by lowering prices and improving service. In this sense "competition is

[1] It should be made clear, of course, that when a public utility takes private property by virtue of a right given to it by the state or city it must pay just compensation to the private owner.

the life of trade." The rivalry of those who have goods or service to sell is in itself enough to afford the public a reasonable amount of protection. There are times, of course, when the free play of economic competition is stifled by some form of combination among private business enterprises, in which case public regulation becomes necessary. Monopolies created in this way are rightly called artificial monopolies, for they are the handiwork of man.

**The Natural Monopolies.**

But railroads, street railways, telegraph and telephone lines, water supply systems, and gas and electric plants are *natural* monopolies. Their rates and the quality of their service are not determined (or are determined at most to a very slight degree) by competition. The individual customer has no choice but to take what is given him. If he desires to travel from one part of the city to another, he cannot usually find two lines of street railway at his disposal. If the rates for gas are exorbitant, he cannot tell the company that he will buy gas from someone else, for he is dealing with the only concern which sells gas in that particular locality. The man who lives in Topeka can send to Chicago and buy his canned goods there if he finds that prices and quality are not satisfactory in his own city; but he cannot get his telephone service or his electric light in that way. He is dependent on local service, and, as a rule, there is only one company with which he can deal in each field of service.

**Competition Between Natural Monopolies Is Impossible.**

Nor is there any possibility of changing this condition of affairs by altering the laws or the ordinances. Public utilities are and must remain monopolies because their business, from the way in which it is carried on, virtually excludes competition. It would be physically possible to have rival street railway companies operating on the same street, or several gas companies laying their mains in the same thoroughfare, or several electric companies stringing their wires over it; but think of the congestion and inconvenience this would cause! Moreover, it would so greatly increase the amount of fixed capital needed to provide the service, and thus so greatly increase the overhead cost, that higher prices to the public would be the only possible outcome of such competition. In years gone by many cities tried the plan of setting two public service companies at rivalry with one another, and in a few cities competing telephone companies still exist; but the competition is rarely in earnest; it always

involves public inconvenience; and it does not often last very long. The rival public service companies, finding competition unprofitable, soon seek to form a combination and to raise their rates.

But Some People Still Believe in It.

All this ought to be as plain as print; but it is not. In every large community one will find men and women, some of them leaders of public opinion, who believe that the way to solve the problem of cheap transportation is to set street cars and motor busses in competition with each other. A natural monopoly is a monopoly by predestination and nothing that laws or men can do will ever make it anything else. Natural laws are stronger than any opposing legislation. It is high time, therefore, that public opinion reconciled itself to the proposition that light, power, transportation, and communication can be more cheaply and more conveniently sold by one company which has the whole field to itself than by competing companies which do not. In *other words there can be no effective competition between public utilities operating in the same area.* It is nearly three-quarters of a century since the great English economist, John Stuart Mill, enunciated this doctrine, and the experience of cities throughout the world has been corroborating it ever since.

Natural Monopolies Must Therefore Be Regulated.

Now, if public utilities are monopolies by nature, and can never be anything else, it is essential that the public authorities shall exercise, in one way or another, sufficient control over them to restrain any abuse of their power. For it is the inclination of all monopolies, when left unregulated, to enrich themselves at the expense of their customers or patrons. There may be exceptions to this rule, but they are as rare as the politician who would rather be right than be re-elected. To let a natural monopoly charge what it pleases, for such service as it chooses to supply, is to deny the citizens that measure of protection against corporate avarice which it is the duty of the public authorities to give. Regulation must therefore be undertaken in the interest of the individual citizen.

1. In the Interest of the Individual Citizen.

2. In the Interest of the Community.

There are other reasons why public utilities must be regulated. The community is even more than the totality of its citizens; it has ambitions and interests of its own. The city must protect such interests as well as those of individuals. For example, the expansion of a city depends upon the scope and efficiency of its transportation facilities. Poor service and high

fares mean down-town congestion; good service and low fares encourage the migration of the worker to the suburbs. The public authorities cannot leave the direction and progress of community growth to the precarious solicitude of a profit-seeking concern. Gas and electricity of good quality and at reasonable rates, moreover, have a bearing on the maintenance of public safety, public health, and the public convenience. The city cannot disclaim all responsibility for the regulation of things which come so close to its own public functions.

3. In the Interest of the Company.

Experience has shown, moreover, that official regulation is desirable from the standpoint of the public utilities themselves. When such companies are allowed to do as they please, without supervision from above, their officers and directors often act in ways which prove detrimental to the interests of their own stockholders. They indulge in high finance, pay dividends that have not been earned, expand the service unprofitably, and take chances with the money of investors. Now it is desirable that capital for the carrying on of public utilities should be easily procurable at reasonable rates and this will not be the case if the investor in public utility bonds or stocks is open to exploitation by any group of speculators or manipulators who may happen to get control of the companies. Public regulation is necessary to ensure that the utilities themselves will be honestly managed.[1]

Public Utilities Are Easier Than Artificial Monopolies to Regulate.

The individual citizen, the community, and the utilities themselves are entitled to the protection which a rational plan of public regulation affords. This protection is all the easier to afford because public utilities, unlike ordinary industrial or mercantile concerns, must come to the state or city government for privileges which they find necessary in the conduct of their business. Their operations are conducted to a large extent upon public property and are dependent on the continuance of privileges which the public authorities have the right to withhold. It is not so with artificial (as distinguished from natural) monopolies such as are created by the purveyors of steel, or tobacco, or sugar through agreements or combinations among themselves. These concerns do not ask the city or the state to give them special privileges in the public highways or to

[1] "The interests of the corporation demand regulation as well as the interests of the consumer." Covington, et al., *v.* Sandford, 164 *U.S.* 596.

confer on them the right to take private property upon the plea that it is needed for a public use. They cannot, accordingly, be brought to terms by the simple expedient of denying requests for special favors. Artificial monopolies come into being without any act on the part of the public authorities and their suppression or regulation is therefore a positive task. But public utilities cannot lay tracks on the street surface, or gas mains under it, or spread wires over it, until the public authorities have consented. This difference, though often overlooked, is not a negligible one.

Franchises: Their Nature.

When a public utility obtains the right to make use of the streets and of such private property as it may need to acquire, the document which conveys this right is commonly called a *franchise*. To the mind of the layman this term portends something very involved, complicated, legalistic. But a franchise is nothing more than a permit or license writ large. Everyone knows, or ought to know, that in order to place an obstruction in the streets or upon any other public property an individual or corporation must first obtain official permission. The merchant who hangs a sign from his building over the highway, the house owner who puts a coal-hole in front of his cellar, the contractor who blocks the public passageway when he is putting up a building, the fruit man who juts his stand out onto the sidewalk—all must first get the city's permission. This is given by the city officials in the form of a license or permit. Each such permit covers a single privilege. But the public utility needs a general permit covering privileges in a great many streets and holding good for a number of years. It requires permission to scatter its tracks, poles, mains, or wires over a wide area. This general permission, which does not differ from an individual permit except in its broader scope and longer duration, is called a franchise.[1] In other words a franchise is merely a grant of the right to use public property (the streets, particularly) either in perpetuity or for a term of years and subject to certain conditions.[2] At any rate a public utility must secure some sort of

[1] "A special privilege granted to one man or one group of men, to the practical exclusion of others, to capitalize the common needs of a city-full of people, to build all-pervasive systems into the public thoroughfares, and own and operate them for private profit—that is a franchise." Delos F. Wilcox, *Municipal Franchises* (2 vols., New York, 1910, Vol. I, p. 28).

[2] Ordinarily it also confers permission to take private property (with com-

franchise before it can begin operations, and to this end it must negotiate with the authorities of the state, city, town, or township as the case may be. By a process of bargaining the company obtains the rights and the public authorities impose the conditions. The franchise enumerates rights and conditions alike; it becomes a contract the terms of which both parties are under obligation to fulfil.

The Franchises of a Generation Ago.

The franchise of fifty years ago was usually a one-sided affair. Companies received extensive rights for long terms of years or even in perpetuity, but assumed very few obligations in return. The chief reason for this was the impatience of the people to obtain immediate service. They wanted electric light or street-car service without delay, and in their haste were induced to pay what proved to be, in the long run, an exorbitant price for it. The franchise-seeker was welcomed as a public benefactor, one who would give a much-needed service quickly and wait patiently for his reward. He promised much and seemed to ask little—at least he asked no cash down. But he invariably got more than he gave, which is what he came for. A few technical phrases, innocent enough in appearance but judiciously distributed at strategic points in the franchise, were sometimes good for many millions.

Reasons for These One-Sided Bargains.

In some cases the one-sided bargain was the result of state interference with the city authorities; for where the latter held out for better terms the legislature sometimes stepped in and granted the franchise over the city's head. In 1860, for example, the New York legislature arrogated to itself the exclusive right of granting franchises in the metropolis and kept this right for fifteen years. These were days, moreover, when city councilmen and state legislators were more susceptible to corrupt influences than they now are. Rings and bosses dominated the aldermanic chambers. The first street railway franchises in New York City were granted by a bevy of aldermen who became known as "The Forty Thieves" and well deserved the name. Their successors in office gave many franchises without limit of time, with no provision for extensions of service, or for public control over the gross earnings of the companies. The same story, with some

pensation) but this may not be essential to the operations of the company. Permission to expropriate private property is not, therefore, an essential of a franchise.

slight variation, was repeated in almost every other large city. Valuable privileges were bartered away for next to nothing by public officials who cringed under the power of franchise-seeking interests. How many million dollars in franchise privileges were donated to private corporations by American cities during these halcyon days of corporate supremacy, no one has ever been able to calculate, but even the most conservative estimates place the total very high. These franchises were the genesis of many private fortunes,—gas fortunes, traction fortunes, telephone fortunes, and other fortunes that rolled up almost overnight.

The Inevitable Reaction.

But public opinion, in due course, began to suspect that franchises were worth more than the city was getting for them, and this suspicion became a conviction when it appeared in the course of various investigations that "boodle aldermen" were enriching themselves in the process. Under the stimulus of public indignation various laws were passed forbidding the grant of any franchise without a public hearing, or without some provision being made for open competition among those desiring to bid for it. In 1886 the New York legislature stipulated that all new franchises in New York City should be sold at auction to the highest bidder.[1] Perpetual franchises, without provision for revocation, were also forbidden by the laws of many states, but this prohibition did not avail in all cases inasmuch as the city councils sometimes evaded it by granting franchises for the limited term of 999 years. The provisions for publicity were also reduced to nullity in many instances by various devices, such as that of giving inadequate public notice of franchise-hearings. So the restrictions were further stiffened up, sometimes by providing that no franchise should be given without the consent of property-owners along the route, or without the approval of the people at the polls. The latter is a common provision in cities today. In some cases it has been provided by law that franchises may be revoked at any time for good cause by the courts or by some designated administrative tribunal.

What a Franchise Contains.

The franchise of today is an altogether different thing, therefore, from the franchise of five decades ago. It is granted for

[1] This might seem to be a shrewd requirement, but its effect was to induce rival franchise-seekers to bid against each other to a point where the price was so high that no one would accept the franchise at all.

a fixed term of from ten to forty years or for an indeterminate period under the revocation proviso just mentioned—in "revocable perpetuity," this is called. It contains many provisions as to rates and quality of service. It provides for such extensions of the plant as may be necessary to meet the needs of a growing community. It determines what share the city shall receive from the profits of the public utility. Sometimes it contains a statement of the terms under which the city may itself take over the service and operate it directly. And it usually makes provision that all controversies between city and company shall be settled either by arbitration or by referring them to some designated public authority.

The Difficulty of Protecting the Public Interest.

A franchise, accordingly, is neither a short nor a simple document. To frame such an agreement requires both legal and technical skill. The public utility companies have usually had command of both, while the city has sometimes been possessed of neither. The repeated triumphs of the public utility companies in their franchise negotiations with the cities of the United States have not been altogether due to official corruption. Official mediocrity accounts for many of them. The city's own law department, and its engineering department, have been regularly outmatched by the high-grade and high-paid experts whom the companies employ in both these fields. At times it has seemed, indeed, as though the public stood fated to lose and that the only way to avoid doing so was to grant no franchises at all. "The only good franchise," said Mayor Tom L. Johnson of Cleveland, "is a dead one." Of late years, however, the disparity in strength as between city and company has not been so great. The cities have profited by their experience and are taking more care to be skilfully represented in franchise negotiations. Thy are retaining outside experts and meeting the franchise-seeker on even terms.

Some Franchise Problems.

In the course of the negotiations for a franchise many difficult questions come forward and must be settled. How many years should a franchise run, or should it be indeterminate? What provisions should be made for renewing the franchise at the end of a fixed term, or for revoking it if no term is fixed? If the franchise is not revoked or renewed, what disposition of the plant should then be made? The service, of course, cannot be interrupted without great inconvenience to the public. Provision

must be made for keeping the plant in operation whatever else may happen. Under what conditions should the city be empowered to take over and operate the plant directly? What share of the company's profits should go to the city in return for the use of public property? And how may the full payment of this share be ensured? How can the city and its citizens be adequately protected against extortionate rates and poor service? This last question is one of extreme difficulty because the conditions of service often change within a very few years. Franchise provisions relating to the quality of gas, or the maximum fare on street railways, or the candle-power of electric lamps may be framed in precise keeping with the needs and technique of today, but the chances are that they will be wholly out of touch with both needs and technique before many years have passed. The cost of operating a public utility depends upon the general scale of wages and prices. Hence it follows that a reasonable maximum scale of rates or charges as fixed today may be much too high, or much too low, within a decade. Great changes, up or down, sometimes take place within a very few years in the price of coal, or steel (both of which are used in great quantities by public utilities), or in the wages of labor. On the other hand some new invention may greatly simplify and thus reduce the expense of the processes used. Progress is continually being made in the technique of public utility operation as in other fields of business. If regulation is to be effective, it must therefore be flexible and able to adapt itself readily to new conditions of cost and service. A franchise has the defect of being a closed bargain. Its terms are there in black and white; unless provision is made for varying them they are as immutable as the laws of the Medes and Persians. They stand still while the conditions that need regulation keep marching on. No written document, furthermore, can ever be self-enforcing. To embalm a host of detailed provisions in a franchise, without at the same time indicating how these provisions shall be interpreted and enforced, is to court an endless amount of controversy and litigation.

**The Need for Administrative Regulation.**

In order to make the regulation of public utilities sufficiently elastic, therefore, it has become the practice to supplement the specific terms of franchises by providing that all disputes or differences of opinion regarding rates and service shall be de-

termined by a public service commission or by some similar body. In other words administrative regulation is summoned to assist in providing the relations between the city and the company with that degree of flexibility which such relations ought to have.

Public Service Commissions:

Public service commissions are in some cases maintained by the cities; but more often they are state-appointed bodies. There are several reasons which make it desirable that the administrative regulation of public utilities should be in the hands of a state board rather than under the control of the cities. In the first place, the jurisdiction of the city officials does not extend beyond the city limits, whereas public service companies often do a considerable part of their business outside. It is not uncommon, for example, to find the same street railway, electric lighting, or telephone company operating in several neighboring communities. Municipal regulation, in such cases, would subject the company to different rules in each community and thereby greatly embarrass any attempt to unify the service as a whole. A municipal commission, moreover, cannot secure the comparative data which is essential as the basis of intelligent regulation. It cannot probe the accounts of public utilities in some other city to find out why service is being better and more cheaply rendered there. Only a state-wide commission can do that.

The Objections to Municipal Commissions:

1. They Are too Limited in Jurisdiction.

2. They Are too Expensive.

There is a second reason, namely, that public regulation is always expensive. A public service commission must have skilled investigators to assist it in deciding the technical questions which arise, and these experts are costly to employ. Large cities can efford the outlay, but in the case of small communities it is far more economical to have a single state commission perform the work as a joint enterprise. One might add, as a third reason, that regulation by a municipal commission gives rise to needless legal complications. The state, as the courts have often held, has inherent power to regulate the rates and service of all public utilities within its bounds. But the city has only such power as the state may delegate to it. The legal presumption of authority is thus in favor of the state and against the municipality. It has been found that the authority and the decisions of municipal public service commissions are more frequently assailed in the courts, and more successfully, than are those of

3. They Give Rise to Needless Legal Complications.

boards possessing state-wide jurisdiction.[1] There is a flavor of unfairness, moreover, in having a city-appointed body sit in judgment where the interests of the municipality are directly concerned. Judges and juries are more easily convinced that the actions of such a commission are arbitrary and unreasonable than are the rulings of a state board which has no local affiliations.

Methods of Selecting Members of Public Service Commissions.

Public service commissions ordinarily consist of three to five members; in cities they are appointed as a rule by the mayor; in states they are usually named by the governor; but in some states they are elected by popular vote and in a few they are subject to the recall. Appointment is the only satisfactory method. The terms of members vary from two to six years and in most cases substantial salaries are paid for the service. Some states have tried the plan of having several commissions, one for each group of utilities (e.g., lighting, transportation, communication) and in one case the scheme of having two commissions with a geographical division of work was given a trial. But today they are coming around to the plan of a single commission with state-wide jurisdiction over all public utilities.[2]

The Need for Capable and Incorruptible Commissioners.

The success or failure of administrative regulation depends upon the quality of these public service commissions. The commissioners must be men of unimpeachable integrity and fairness or their work will fail to command public confidence. A public service commission is a quasi-judicial body; its attitude ought to be one of strict impartiality. Its proper function is to hold the scales evenly as between the public utility company on the one hand and the municipality or the individual citizen on the other, which means that each commissioner should have the open-mindedness of an upright judge. Unhappily, however, this ideal is rarely attained. Governors often appoint, and the

[1] In large cities it is not unwise, nevertheless, to maintain a municipal public service department with the duty of collecting data, representing the city at hearings before the state commission, and settling by amicable negotiation such local controversies as can be adjusted in that way. As between the city and the company the state commission is properly a neutral arbiter. Some municipal authority should therefore be charged with the representation of the city's interests.

[2] On this and other points connected with administrative supervision see Harold F. Kumm, *The Legal Relations of City and State with Reference to Public Utility Regulation*, reprinted from the Minnesota Law Review (December, 1921–January, 1922), especially pp. 8-9.

people more often elect, men whose qualifications are mainly political and whose decisions in public utility cases possess no tinge of impartiality. Such men often set themselves up as tribunes of the people, as "champions of the proletariat against the forces of organized avarice"—their aim being to capitalize this attitude for their own political advantage. In other cases the public utility companies have managed to secure, through pliant governors, the appointment of commissioners known to be friendly to themselves. Such men, by their persistent partiality toward the companies, have helped to impair public confidence in the value of administrative regulation. There is no way of preventing, by constitutional or legal safeguards, the appointment or election of biassed or pliable commissioners. The best that can be done is to centralize the responsibility and make the work of the commission widely known, leaving public opinion to do the rest.

The Public Attitude.

But public opinion does not itself always assume a reasonable attitude toward those commissions which are sincerely trying to deal in a judicial spirit with matters coming before them. When a public service commission orders a reduction in rates or an improvement in service its action is roundly applauded; but when it permits a public utility to increase rates, or to change some service-feature in the interests of more economical operation, there is a hue and cry of protest, fomented chiefly by the yellow press and those parasitical politicians who look upon class antagonism as their chief stock-in-trade. Numerous instances can be brought forward to illustrate how readily popular resentment can be mobilized against any decision which seems to favor the public utility companies. Labor organizations are called upon to rise in protest when a public service commission sanctions the use of one-man cars, or forbids jitney competition, or permits a telephone company to replace switchboard workers by an automatic calling-device. Business men are summoned to go on record, through their chambers of commerce or other organizations, against the introduction of a measured telephone service. Householders, in turn, are egged on to resentment because the public service commission tolerates a sliding-scale of lighting rates which benefits the large customers. Yet all of these things make for economy and efficiency in public utility operation and hence serve the public advantage as a whole. Sometimes the

public clamor will be quieted by nothing short of the commission's removal. In 1922, for example, the voters of Oregon recalled two members of the state public service commission from office on the ground of "inefficiency and lack of consideration for the public interests," their offence being a decision which authorized an increase in telephone rates at a time when these rates were being increased in many other parts of the country. Now it requires no special gift of prophecy to predict that if public service commissions are forced to decide every question in accordance with the momentary wishes of the electorate, or some influential portion of it, without regard to the merits of the issue itself, the days of administrative regulation are numbered.

**The Functions of a Public Service Commission.**

With what is the work of a public service commission concerned? It covers a wide range. Broadly stated, the commission's principal function is to see that the companies live up to the terms of their franchises and obey the general laws relating to public utilities. The commission hears complaints from city officials and citizens, investigates these complaints, obtains the company's side of the case, and makes such rulings as the matter seems to require. It seeks to prevent discrimination in favor of one community as against another, by insisting that equally good service be given to all. It requires financial reports from the various companies, and to this end it may order that all public utility accounts shall be kept in a uniform manner. Rates are of fundamental public concern in the operation of municipal utilities and the commission usually possesses authority to approve or to disapprove schedules of rates, subject to any fixed stipulation that may be made in the franchises or in the general laws. Such matters as the approval of new stock and bond issues by companies, of extensions or abandonment of service, of safety appliances, of inter-company contracts, and so on, also come within the purview of the commission. The usual procedure, when complaints are made, or when a company desires approval for some proposed action, is to hold a hearing. The complainants state their case, and support it with such testimony as they care to present. Then the company, through its representatives, submits its case in rebuttal. Where the approval of capital issues, or of some new service-feature is sought, or where application for increased rates is made, the company presents its arguments and data first. The opposition

is then heard. The commission, if it sees fit, may have its own experts make an independent investigation, and this is often done when the data submitted to it by the contending sides is irreconcilably at variance. Having thus studied the matter, the commission, by majority vote, makes its decision.[1]

Their Procedure.

Public service commissions began their work, a generation ago, with a clean slate.[2] They had no precedents to guide them, and for a time were forced to decide each case on its own merits. Gradually, however, they began to evolve some general rules covering cases of substantially the same sort and there has now been developed a considerable body of public utility jurisprudence. While a commission is not bound to follow its own precedents, much less those of commissions in other states or cities, it is nevertheless the practice to give weight to both. In the vast majority of instances the rulings of the commission are accepted as final by both parties to the controversy; but appeals may be taken to the courts, particularly in cases where the decisions are regarded as constituting a deprivation of property. No state can authorize its public service commission to deprive either a citizen or a corporation of the equal protection of the laws. In every large city, by the way, there are attorneys who make a specialty of public utility practice, who follow the decisions of public service commissions throughout the country, and prepare their cases for the hearings as for a regular judicial proceeding.

The Company's Advantage in Cases Before a Public Service Commission.

In this connection it may be observed that when controversies between a company and a municipality come before a public service commission the company is almost always better represented than the city. This is especially true of controversies in which small cities and towns are concerned. The company's legal and technical skill are the best that money can buy. Its representatives are appearing before the commission almost daily; they know its procedure thoroughly; they understand what sort of evidence counts and what does not; they have all the precedents

[1] A great many complaints from individual citizens are adjusted without a hearing. The commissions, through their investigators, merely bring matters to the attention of the proper company officials and secure voluntary action on their part without the necessity of any formal order.

[2] The first body of this nature to be established in the United States was the Massachusetts Railroad Commission, which began its work in 1869, but public service commissions did not become general for many years thereafter.

at their finger tips. The large city can cope with this array of skill by hiring special counsel and technicians who are similarly equipped; but the small municipality does not feel that it can afford the outlay. Nor does it usually realize that there is any need for it. Small communities think very highly of their local talent. So the regular town solicitor and town engineer fare forth to the hearing at the state capital, confident that they can match wits with the best of them. The result, as a rule, is what one might expect. The municipality's side of the controversy proves to have been crudely and inadequately prepared; essential facts are lacking; the established procedure of the commission has not been complied with, and the precedents have not been heeded. Whereupon the company's representatives, with complete and accurate data in hand, proceed to tear the opposing case to shreds, leaving the commission no alternative but to render a decision in their own favor.

**Commissions Sometimes Get Blame That Belongs to the Politicians.**

Much of the local unpopularity which attaches to the rulings of public service commissions from time to time is the result of a failure to appreciate the proper function of these bodies. It is not their duty to prepare cases for the municipal authorities. The latter, when the ruling is adverse to themselves, often seek to cloak their own errors and incompetence by attacking the commission's impartiality, and branding it as a tool of the vested interests. No lasting advantage is ever gained by that procedure. The cities must become reconciled to the fact that public regulation is very expensive to all concerned. It is injudicious economy to impose upon the regular city departments any specialized function which they are not well fitted to perform. There is an old saying among lawyers: "The layman who pleads his own cause has a fool for a client." The same is true of the average city solicitor who, although unpractised in public utility matters, undertakes to wage a fight with the specialists who represent the companies before the public service tribunals.

**What Are Reasonable Rates?**

Briefly stated, the purpose of administrative regulation is to ensure adequate and efficient service at reasonable rates. But what are *reasonable* rates? Ordinarily they are taken to be such rates as suffice to cover the cost of the service and in addition yield the company a fair return.[1] This principle of a "fair re-

[1] See the discussion of "service at cost" as applied to street railway operation. *Above*, pp. 392-394.

turn" is easy to state, but it is by no means easy to apply when individual cases arise. This is because opinions diverge widely with respect to the basis upon which the fair return should be calculated. If you ask the average layman, he will tell you that "six or seven per cent" is a fair return; but six or seven per cent upon what? On the outstanding capital of the company? On the money invested in the plant? On the present market value?

**The Basis of a Fair Return.**

To take outstanding capital as a basis is not always fair. Many public utilities are over-capitalized, that is, some of the outstanding stock does not represent actual investment in the plant but is mere "water," as the saying goes. Some of the stock, for example, may have been issued to promoters for their services, or in connection with the consolidation of various small companies, or in extra dividends to stockholders. Dividends on this stock are expected by the stockholders, of course; but should they be included in reckoning a fair return? If not, it is sometimes very difficult to determine just what fraction of the capital ought to be deducted.

**1. Outstanding Capital.**

Another method of calculating a fair return is to take the total amount actually invested in the plant, deducting therefrom whatever seems to be a proper allowance for depreciation—say five per cent per annum or whatever may be agreed upon. This is a simpler and in some ways a more just method, although there is a certain difficulty in determining the depreciation factor. Some things depreciate in value or become obsolescent far more rapidly than others. Fixtures and equipment lose value more rapidly than buildings. Land, on the other hand, may actually appreciate in value, and public utilities sometimes own a great deal of it.[1]

**2. Actual Less Investment Depreciation.**

Finally, there is the plan of making an appraisal of the plant as a going concern, without reference to the amount of capital outstanding, or of money actually invested. This is done by having a board of appraisers (usually engineers) make an actual inventory at present prices. They figure, in other words, the reproduction cost, what it would cost to reproduce the plant in its present shape today. But to make such an inventory is not so easy as it looks: it requires not only engi-

**3. Reproduction Cost.**

[1] For a discussion of public utility valuations, see the references given on p. 415.

neering but legal, accounting, and economic expertness. Nor does a physical valuation, however expert it may be, solve all the problems involved. What about intangible property, for example, such as good-will, the unexpired franchises, the "going concern" elements in value? The merchant or the manufacturer counts good-will and patents among his assets, although a patent is to all intents an unexpired franchise. Should the value of a public utility be inclusive of franchise values or should it take into account the physical properties only?

**Some Basis of Valuation Must Be Agreed Upon.**

Six per cent on capitalization is one thing; six per cent on the appraised value of the physical property may be a great deal less. A fair return, calculated on the former basis, might be twice as large as one reckoned on the latter. Yet the figuring of a fair return to the franchise-holder is an essential prelude to the determination of reasonable rates, and public service commissions must settle the one before they can proceed to the other. Their task is rendered somewhat more perplexing by the fact that in matters affecting the reasonableness of rates there is the possibility and even the likelihood of an appeal to the courts. Valuation, of course, is fundamental not only in rate-fixing but as a basis for the purchase price whenever a public utility is transferred from private to municipal ownership. Nevertheless a prolonged discussion of this question by courts, public service commissions, public utility organizations, and economists has led to no definite agreement either as to the method to be employed in figuring the valuation of a public utility or as to the detailed rules for applying whatever method may be chosen. An agreement on these points is much to be desired.

**A Word of Explanation.**

Two or three other topics ought logically to be discussed in the present chapter but some practical considerations make it expedient to deal with them elsewhere. The taxing of franchises and public utilities will therefore be briefly considered in the chapter on municipal revenues, while the question of "service-at-cost" has already been discussed in connection with the general problem of municipal transportation. The whole question of municipal ownership, moreover, has been left untouched here and is reserved for the next chapter.

## REFERENCES

The most useful bibliographical volume in this field is Don L. Stevens, *Bibliography of Municipal Regulation and Municipal Ownership* (Cambridge, 1918). In 1921 the Library of Congress prepared a *List of Bibliographies on Public Utilities, Including Regulation, Valuation and Municipal Ownership.* Mention should also be made of the 133-page *Bibliography on Valuation of Public Utilities,* published by the American Society of Civil Engineers (New York, 1915).

The best sources of reliable information on the regulation of municipal utilities in the United States are the reports of the public service commissions in the various states and cities. A summary of their decisions is contained in *Public Utilities Reports Annotated,* published annually (Rochester, N. Y.). Ten years ago the National Civic Federation issued a voluminous publication entitled *Commission Regulation of Public Utilities,* being a compilation and analysis of the laws relating to the subject in forty-three states (New York, 1913). Material relating to municipal utilities in Great Britain is widely scattered in the publications of the Board of Trade, the Ministry of Transport, the parliamentary papers, and the reports of the municipalities. R. H. Whitten's volume on *The Regulation of Public Service Companies in Great Britain* (New York, 1914), is useful.

From time to time the United States Bureau of the Census issues special reports on public utility operations, as, for example, the report on *Central Electric Light and Power Stations* (Washington, 1920), and data relating to public utility finance may be found in Poor's *Manual of Public Utilities* (published annually).

General discussions of public utility franchises, regulation, operations and valuation are plentiful. Dr. Delos F. Wilcox's *Municipal Franchises* (2 vols., New York, 1910), is still of considerable value, particularly for its historical surveys. As respects street railway franchises the same author's *Analysis of the Electric Railway Problem* (New York, 1921), is indispensable to serious students of the subject. The same is true of L. Arent, *Electric Franchises in New York City* (New York, 1919). *The Regulation of Municipal Utilities* (New York, 1914), edited by Clyde L. King, contains some helpful discussions, and there is a serviceable bibliography at the end of the book. An elaborate discussion of *Public Policies as to Municipal Utilities* is included in Volume LVII of the Annals of the American Academy of Political and Social Science (Philadelphia, 1915).

Books of a more special nature, each valuable in its own field, are Halford Ericson, *The Valuation of Public Utilities* (Indianapolis, 1912); Henry Floy, *The Valuation of Public Utility Properties* (New York, 1912); C. E. Grunsky, *Valuation, Depreciation and the Rate Base* (New York, 1916); *Ibid., Public Utility Rate-Fixing* (San Francisco, 1918); H. Barker, *Public Utility Rates* (New York, 1917); H. V. Hayes, *Public Utilities: Their Fair Present Value and Return* (New York, 1915); W. G. Raymond, *What Is Fair: A Study of Some Problems of Public Utility Regulation* (New York, 1918); M. B. Ignatius, *The Financing of Public Service Cor-*

*porations* (New York, 1918); and N. C. Collier, *Treatise on the Law of Public Service Companies* (St. Louis, 1918). In connection with this last-named volume mention should be made of O. L Pond's *Treatise on the Law of Public Utilities Operating in Cities and Towns* (2d edition, Indianapolis, 1913), and of Harold F. Kumm's articles on "The Legal Relations of City and State with reference to Public Utility Regulation" in the *Minnesota Law Review* (December, 1921–January, 1922).

The most useful periodical relating to public utilities in general is *Public Management,* published monthly at Chicago. It is devoted to the problems of electric, gas, water, telephone and transportation utilities. The National Association of Railway and Utilities Commissioners issues each year a volume of *Proceedings,* and in these volumes (beginning in 1915) many interesting discussions of public utility questions may be found.

See also the references at the end of Chapters XXXIX, XL and XLII.

# CHAPTER XLII

## MUNICIPAL OWNERSHIP

Regulation and Ownership Are the Only Alternatives.

Has public regulation of municipal utilities been a failure? And if so, what alternative policy is there at hand? Public regulation is exceedingly difficult; this has been found to be the case in all countries, but more particularly in the United States where the regulating bodies have sometimes lacked the power, and more often lacked the will, to perform their functions effectively. Discouraged by the inherent difficulties of the problem many people have come to regard public regulation as a failure and are urging that it be supplanted by a policy of direct municipal ownership. They insist that a community has only two alternatives and that if it is not satisfied with the one, it must necessarily take the other. Whole volumes have been written on this theme, some of them reflecting a high order of argumentative and literary skill.[1]

Municipal Ownership Defined.

If anywhere there is a need for clearness of terminology, it is here, for the words municipal ownership convey an inadequate idea of the policy which they are intended to connote.[2] It is not merely *ownership* but *management* that the term implies, and indeed it is the latter that usually gets most of the emphasis. In Philadelphia, for example, the gas works are owned by the city; but because they have been leased to a private corporation and are operated under private management no one ever speaks of this utility as an example of "municipal ownership." In Boston, on the other hand, the street railways are managed by the public authorities, but owned by a private company, and

[1] For example, Leonard Darwin's *Municipal Ownership*, and George Bernard Shaw's *Common Sense of Municipal Trading*.

[2] Twenty years ago, when Major Leonard Darwin published his earliest discussion of the subject (*Municipal Trade*, London, 1903), he began his first paragraph with the assertion that no rigid definitions were needed. But before the author's reviewers were through with him it had become quite apparent that a precise definition would have forestalled a good deal of pointless criticism.

here again the illustration does not serve. Municipal ownership involves both ownership and operation. For this reason the term is not altogether felicitous, but it has established itself in American popular usage and is not now likely to be displaced. In France and Germany the policy is spoken of as municipal socialism; in Great Britain they call it municipal trade or municipal trading. But municipal socialism and municipal trading include rather more than Americans have in mind when they speak of municipal ownership. They include not only the public utilities (lighting plants, street railways and telephones) but also such public enterprises as municipal tenements, savings banks, theaters, bakeries, abattoirs, and even pawn shops. Municipal ownership, as Americans use the phrase, has reference only to the major public utilities—water, gas, electricity, and transportation. And since the water-supply has now been taken over by most of the cities, the controversy over municipal ownership in the United States narrows itself down to the two fields of lighting and transportation.

**What Is Excluded.**

Nowhere, either in Europe or in America, does the issue of municipal ownership relate to such enterprises as schools, markets, libraries, and bath-houses, although all of these were at one time conducted by private concerns for profit. Logically, perhaps, there is as good reason for including markets as for including gas plants among examples of municipal ownership; but the question is not one of logic; it is merely one of usage. When men place themselves on record as opposed to the policy of municipal ownership it is very far from their minds to urge that the city's schools or markets should be left in private hands. Nor, on the other hand, is it correct to speak of the city's experience along these various lines of civic effort as successful ventures into the field of municipal ownership. The various functions which a city performs in the interest of the public safety, health, or morals have no relation to the issue of municipal ownership at all. Yet writers have sometimes failed to keep this distinction in mind.[1]

[1] Here, for example, is a description of an "over-municipalized city" which appeared some years ago in one of the world's leading periodicals. "Glasgow," says the writer, "is a typical instance. There a citizen may live in a municipal house. He may walk along the municipal street, or ride on the municipal tram-car, and watch the municipal dust-cart collecting the refuse which is to be used to fertilize the municipal farm. Then he may turn into the municipal market, buy a steak from an animal killed in the municipal slaughter-house, and cook it by municipal gas on a municipal

Extent of Municipal Ownership in Europe and America.

Municipal ownership, using the term as above defined, has made far greater progress in Europe than in the United States. In the municipalities of Great Britain, for example, there are about eight hundred gas plants, of which more than 300 are publicly owned and operated, in other words about forty per cent of the entire number. Among these are the great municipal plants in Glasgow, Manchester, and Birmingham.[1] London, on the other hand, is still supplied by private companies. In Germany no reliable figures have been available since the war, but prior to 1914 the gas plants had been taken over by more than two-thirds of the larger cities. In France and Italy the percentage of municipal gas plants is somewhat smaller. Throughout the United States, on the other hand, only thirty municipalities own and operate their gas plants and among these only five are cities with populations exceeding 30,000.[2] Nor has there been any marked increase in this number during the past quarter of a century.

1. Gas Plants.

2. Electric Lighting.

In the matter of electric lighting the contrast between Europe and America is also notable. Among the 500 largest electric lighting plants in Great Britain about half are publicly owned.[3] In Germany the proportion of municipalized plants is still higher, particularly in the larger cities. Among the fifty most populous cities no fewer than forty-one had municipal electric plants when the war began. American cities make a more modest showing. According to the latest census figures, published in 1920,

gas stove. For his recreation he can choose amongst municipal libraries, municipal art galleries, and municipal music in the municipal parks. Should he fall ill, he can ring up his doctor on the municipal telephone, or he may be taken to the municipal hospital in the municipal ambulance by a municipal policeman. Should he be so unfortunate as to get on fire, he will be put out by a municipal fireman, using municipal water; after which he will, perhaps, forego the enjoyment of a municipal bath, though he may find it necessary to get a suit in the municipal old-clothes market" (R. E. C. Long, in the *Fortnightly Review*, January, 1903). But if Glasgow was "over-municipalized" twenty years ago, because the city owned its streets, its refuse carts, its markets, its public library, its parks, its hospitals, its police and fire stations, then the same is true of all the world's cities today.

[1] For statistics relating to these plants see the *Municipal Year Book of the United Kingdom* (1922), pp. 481-484.

[2] Richmond, Va., Wheeling, W. Va., Duluth, Holyoke, Mass., and Hamilton, Ohio. Philadelphia, it will be recalled, owns but does not operate its gas plant.

[3] For the list, see *Municipal Year Book of the United Kingdom* (1922), pp. 498-502.

there were in 1917 more than 6500 electric lighting plants serving American communities of all sizes. Of these about 35 per cent were in the hands of the municipalities themselves. Among the larger cities which have embarked upon the policy of municipal ownership in this field are Chicago, Cleveland, Seattle, Tacoma, Columbus, Kansas City (Kansas), Birmingham, Cincinnati, and Pasadena.[1]

3. Street Railways.

The most notable difference between Europe and America, however, appears in the case of street railways. There are about 300 "tramways" in British cities and of these about 180 are public property,—more than half.[2] The London County Council now owns and operates about 300 miles of tramway trackage.[3] In Germany the proportion of municipally-owned tramways is also more than half, although the total number of street railway systems is smaller than in Great Britain. Taking, again, the fifty largest German cities, one could find municipal ownership in twenty-six before the war and it is altogether probable that the number is greater today.

Now America has a larger number of street railway systems, and a greater street railway mileage, than all these European countries put together. But prior to the outbreak of the World War only one American city (San Francisco) had seriously ventured into the field of municipal transportation, although several other cities had come to the brink of doing so.[4] San Francisco

[1] United States Bureau of the Census, *Central Electric Light and Power Stations, 1917* (Washington, 1920).

The progress of municipal ownership, as respects electric plants, is shown by the appended table:

| | 1902 | 1907 | *Increase Per cent* 1902-07 | 1912 | *Increase Per cent* 1907-12 | 1917 | *Increase Per cent* 1912-17 |
|---|---|---|---|---|---|---|---|
| Municipal plants.. | 815 | 1,252 | 54 | 1,562 | 24 | 2,318 | 48 |
| Private plants.... | 2,805 | 3,462 | 23 | 3,659 | 6 | 4,224 | 15 |
| | 3,620 | 4,714 | 30 | 5,221 | 11 | 6,542 | 25 |

[2] Among these are the street railways of London, Glasgow, Birmingham, Manchester, Liverpool, Leeds, Sheffield, Cardiff, Edinburgh, and Belfast. The only large cities in which private companies now operate all the tramways are Bristol, Dublin, and Cork. In London, however, the underground "tubes" and the motor bus lines are in private hands.

[3] About 200 miles are also operated by other public authorities within the Greater London area, and about 150 miles by private companies.

[4] In some cases, notably in Chicago and Toledo, the people voted for municipal ownership but because of various constitutional or legal obstacles the street railways were not taken over.

took over and began to operate certain lines of trackage in 1912 and these lines have been gradually extended. In 1919, Seattle purchased the street car lines within the city limits and Detroit in 1922 did likewise. Ashtabula, Ohio, also bought and assumed the operation of her street railway system in the same year.[1]

Reasons for the Less Rapid Development of Municipal Ownership in America:

This contrast between Europe and America as respects the progress of municipal ownership is rather striking and various reasons combine to account for it. One is the greater administrative efficiency of the European municipality. The affairs of European cities are, and long have been, administered by men of technical training and qualifications. The people of those cities know that if additional tasks are imposed upon their public officials, there will at least be no inevitable bungling of the job. It is the European practice to place technical functions in expert hands and to give the expert not only security of tenure but a large measure of latitude in the performance of his functions so long as he achieves the desired results. In the United States, on the other hand, with the system of political spoils and patronage in full sway, it has been apparent to the veriest tyro in municipal politics that the entrusting of large business enterprises to the appointive or elective officials of the city can hardly be otherwise than a venturesome experiment. Before the people of an American city can safely undertake to own and operate their public utilities they must first learn how to own and operate their government. The professional politician, the boss, the "lame duck," the spoils system, and the practice of rotation in office have been great obstacles to the extension of municipal ownership in the United States and they will continue to be so long as they exist.

1. The Inferior Qualifications of American Municipal Officeholders.

2. The Superior Initiative of the American Business Man.

There is another reason, namely, the superior initiative and capacity of the American business man. It is a boastful saying, but none the less a truth, that private business has more initiative, energy, and brains at its disposal in the United States than in any other country. The business men of American cities seek out the opportunity to do constructive work, to take responsibilities and to assume risks; they do it with a zest that

[1] The booklet on *Municipal Railways in the United States and Canada*, issued by the Public Ownership League of America (Chicago, 1922) mentions that municipal street railways are also being operated in the following smaller cities: Pekin, Illinois; Fort Collins, Colorado; Lincoln, Illinois, and Eureka, California.

amazes the world at large. And this is not surprising. In a new country, with great undeveloped resources, the chance of making and the chance of losing a fortune are both large; and the man who expects to make must be prepared to lose. Private capital in the United States early acquired the habit of taking chances. It leaped at opportunities when the public authorities were afraid of the risk involved—in the building of turnpikes, railroads, irrigation works, telegraph lines, street railways, and lighting plants. During the nineteenth century, therefore, America developed a host of great *entrepreneurs* who took in hand those enterprises which seemed too vast or too risky for public exploitation. It was this scope for the keen and the strong that produced the Goulds, the Vanderbilts, the Hills, and the Harrimans,—the men who nailed their far-flung lines of iron and steel across the face of a continent. With villages growing into towns, and towns into cities, the race went to the swift. The people of these expanding communities would not wait for the slow-moving hand of public authority to supply them with water, gas, electricity, telephones, and street railways. They called upon private capital, and private capital responded. In their impatience the people often gave away, it is true, franchise privileges of great value; but they got the service and got it quickly. At any rate the public utilities went into private hands and it has not been easy to get them out again.

3. The Constitutional and Legal Obstacles in America.

The American system of legal and constitutional limitations has also had something to do with the slow progress of municipal ownership. In European countries, as has already been pointed out, the cities are given a broad grant of powers. Subject to the approval of certain administrative authorities they may engage in public ownership virtually at will. But the powers of the American city are precisely enumerated and they do not usually include the right to engage in profit-making enterprises. Special legislation has ordinarily been needed before an American city can take over a public utility, at least before it can raise the essential funds. In the United States, moreover, the public utility companies have had that full and generous protection which constitutions and laws afford to private property. Their unexpired franchises are property, not to be taken away from them without just compensation. Hence a city which presumes to venture into the field of municipal ownership often finds itself

faced with the necessity of paying a large sum for something that it gave away free. It is only the most uninformed optimist who believes that the transition from private to municipal ownership can be effected as easily in America as in Europe. Great obstacles—legal, financial, and political—stand athwart the path over here; they are very much less formidable over there.

**4. Many Americans Believe the Policy "Socialistic" and Hence Are Afraid of It.**

A certain psychological barrier has also impeded the progress of municipal ownership in the United States. The policy of public ownership is termed by its opponents "socialistic," and the American people have been inclined to look askance at anything that smacks of socialism. Municipal ownership is, no doubt, socialistic in that all Socialists believe in it. The Socialist believes it to embody the right policy in all cities, at all times, and as respects all public utilities. He would eliminate the public utility company altogether. But not all who believe in municipal ownership are Socialists. There are men who favor it as applied to some designated public utility in a particular city, but who do not favor it as a general policy. And this is a defensible ground to take. Municipal ownership embodies a policy rather than a principle. Like Hancock's tariff it is a local issue, or ought to be. But neither in Europe nor in America has it always been so considered.

**The Real Issue in Municipal Ownership.**

The real issue is one of expediency. Is it advisable to place upon the government of the city a greatly increased burden by giving it, in addition to its customary political and social functions, the management of enterprises which are predominantly of a business nature? The answer to the question must depend in part at least upon two things: first, whether private management under public regulation has been reasonably satisfactory, and, second, whether the city government is organized to carry the increased burden properly. These two questions will not everywhere be answered in the same way. In some cities, and in the case of some utilities, private operation has broken down; in others it has shown no signs of doing so. Even in the same city the policy of private management may be successful in one service, such as lighting, and a flat failure in another, such as transportation. Furthermore, the organization, the efficiency, and the traditions of municipal government differ widely from country to country, and even from city to city close by. If

poor service is an argument for changing the management; good service is an equally strong argument for letting well enough alone. Conversely, if the existence of a capable city government is an argument for putting greater responsibilities upon it, the presence of incompetents in public office is a reason for withholding increased responsibility.

It Cannot Be Decided by Using Platitudes.

There has been a vast waste of words in polemics on the question of municipal ownership, one side urging it as a complete panacea for municipal ills in every land; while the other declares that it will nowhere bring anything but deficits and demoralization. The truth, of course, is that municipal ownership will succeed in one place and fail in another. It will succeed when applied to one utility and fail when applied to another. That, indeed is just what it has been doing for two generations. It has done better in Europe than in America, and better in some American cities than in others. No discriminating student of the subject has expected it to be otherwise, for even as cities and their problems differ so must their relative success in handling these problems be different.

Nor Is It Solely an Issue of Financial Profit and Loss.

Too often, again, the question has been discussed as though it were one of profit and loss alone. Does municipal ownership pay? Is it cheaper? Can the city give the service for less money? Or is it more expensive? Does the policy of municipal ownership involve an annual deficit which must be made good out of current taxes? These financial queries have been pushed to the front in most discussions, and quite naturally so; but the issue is not one of finances alone. It is not merely one of surplus versus deficit. There are public gains and public losses which, though their importance cannot be questioned, are too intangible to be set down on balance sheets in columns of figures. The eradication of a corrupting influence from political life, the fair treatment of labor, the ensuring of uninterrupted service, the exercise of an effective social control over essential public industries—who can measure the value of these things to a community? A public utility sells service to the people and the amount of satisfaction which this service gives cannot be expressed in terms per kilowatt-hour or per passenger-mile. Municipal ownership is not, therefore, a question of relative cheapness alone. It is not merely a question of economics, but of government and sociology as well.

It Has a Political Aspect As Well.

It is a question of government for the reason that the private operation of public utilities has had far-reaching effects upon the course of municipal politics. Disagreement on this point relates rather to the extent and nature than to the existence of this influence. Some have gone so far as to brand the public service corporation as the greatest of all corrupting influences in American municipal life. That is undoubtedly an overstatement, yet it will hardly be denied that the public service corporations have contributed their share to the debauching of American city politics. To remove this sinister influence would be worth something. But the departure of the private companies would inevitably mean a great increase in the number of the city's own employees; probably a doubling of the present force. And might not this offset, or more than offset the advantage gained? For it would be folly to blink the fact that the organized pressure of the municipal employees has also been one of the politically demoralizing influences in European and American cities alike. To double their number would be to double their strength. There is no reason to think that their influence would be directed to better purpose under the new régime.

How Great a Load Can a Democracy Bear?

Every democratic community, moreover, must remember that there are limitations to the amount of work which can safely be imposed upon the public officials. There is such a thing as overtaxing the muscles of a government and breaking them down. There is ever present, as John Stuart Mill once pointed out, "the mischief of overloading the chief functionaries of government with demands on their attention, and diverting them from duties which they alone can discharge to objects which can be sufficiently well obtained without them; the danger of unnecessarily swelling the direct power and direct influence of government, and multiplying the occasions of collision between its agents and private citizens; and the still greater inexpediency of concentrating in a dominant bureaucracy all the skill and experience in the management of large interests, and all the power of organized action existing in the community." "This," Mill went on to declare, "is the main cause of the inferior capacity for political life which has hitherto characterized the overgoverned countries of the Continent, whether with or without the forms of representative government.[1] What would it profit

[1] J. S. Mill, *Political Economy*, Vol. II, Ch. xi, Sec. 11.

a government, therefore, to gain the whole world of private enterprise if, in so doing, it should lose its own soul and transform itself from a popular government into a bureaucracy? Therein lies the political danger of all socialistic enterprises.

Social Aspects of the Issue.

The issue is also one of social ethics. The question whether the policy of municipal ownership is justifiable in any particular instance cannot be settled by the statistics of this or that adventure in it. "The balance-sheet of a city's welfare cannot be stated in figures. Counters of a much more spiritual kind are needed, and some imagination and conscience as well." [1] Here is reflected a point of view that should have more emphasis than it usually receives. All forms of business enterprise, whether publicly or privately owned, have their reactions upon the social life of the community. The safety and continuity of operation, the hours and wages of labor, the degree of care taken for the health and recreation of large bodies of employees; these are things in which the entire community has a direct interest no matter who the owners of the enterprise may be. And the public utilities are great business enterprises, serving sometimes millions of people and employing great bodies of workers. They are much in the public eye; the influence of their example is potent. One type of management may produce a financial surplus while contributing negatively to the city's social well-being; another may yield a high dividend in the latter sense while showing a financial deficit on its books at the end of the year. This aspect of the matter is not to be lightly disregarded, for a city is bound to protect its social fabric even though this may involve large outlays in money, just as it must conserve, if it can, the purity of its political life. If this outlay should take the form of liquidating an annual deficit caused by the enlightened management of city-owned utilities rather than the form of direct taxation for repairing the social or political damage resulting from corporate avarice it might even be a real economy. The main thing is that whatever expenditure the city makes for improving the life of the community shall be effective to the end desired; the particular channel that it takes does not much matter. All this is not to imply, of course, that municipal ownership does in fact embody a more enlightened social policy; that is a

[1] George Bernard Shaw, *The Common Sense of Municipal Trading* (London, 1918), *Preface.*

thesis which is yet for its sponsors to prove. Where and if it can be established, however, the importance to be attached to this phase of the matter is undeniably great.

Complexity of the Problem.

Much misunderstanding has arisen from the common failure to look upon municipal ownership as a complex, many-sided, question of practical expediency to be decided by each city in the light of its own conditions rather than a simple problem of political philosophy to be solved by an appeal to principle. Little is gained, for example, in the illumination of this issue by assuring us that municipal ownership is the only "definite, comprehensive, constructive policy" in relation to public utilities and that all else is "mere opportunism."[1] A policy is rendered neither better nor worse by hitching a string of adjectives to it. And when you come to reflect upon it the greatest achievement of America in our generation—her entry into the World War and her part in it—was very far from being the outcome of any "definite, comprehensive, constructive policy." There are economic considerations to be taken into account in determining whether municipal ownership is expedient or otherwise at any given time or place; there are political and social considerations also. These several considerations interlace and overlap, sometimes they are at variance. This may be made clearer, perhaps, by a summary of the more important among them.

The Arguments for Municipal Ownership.

The case for municipal ownership hinges, first of all, upon the asserted failure of public regulation. The customary argument runs this way: "Public utilities are natural monopolies. Being so, they must be operated under some such arrangement as will afford protection to the owner, the employee, and the public. There are only two ways of ensuring this, namely, by public regulation or by public ownership. The former alternative has been given a full and fair trial; but it has failed. It has not been able to afford capital a fair return. It has not been able to compel the obedience of the public utility companies. It has not prevented labor troubles, strikes, and interruptions of service involving heavy loss and great inconvenience to the public. It has not succeeded in making good the promise that the public interest is the dominant interest to be considered in

1. The Policy of Regulated Private Ownership Has Shown Itself a Failure.

[1] D. F. Wilcox, *Analysis of the Electric Railway Problem* (New York, 1921), p. 638. See also the same author's pamphlet entitled: *Resolved that Municipal Ownership is Desirable* (New York, 1922).

public utility operation. The companies have not accepted regulation in good faith. So let resort be had to the other alternative; it can be no worse and may prove to be better." This is the first argument for municipal ownership; but it is commonly stated in more vehement language.

**Is This Argument Sound?**

To the assertion that regulated private ownership has failed the usual answer is that no such failure has been demonstrated. Public regulation has failed in some instances, it is true, but one cannot fairly say that it has done so in all cities or perhaps even as respects the majority of the utilities to which it has been applied. Failure and success in this field of public effort are not absolute terms; their use depends upon individual opinion and judgment. Regulation, it may well be conceded, has fallen below expectations, but surely it is not wise governmental practice to discontinue an experiment whenever it seems to be falling short of the hopes reposed in it. Were that so, we would make quick shrift of such things as the direct primary, the popular election of senators, nation-wide prohibition, and the transportation act. Policies and methods can be improved and amended; their defects can be eradicated. Regulation has been an exceedingly difficult enterprise. It has failed in some cases because of the human equation involved. Incompetents or worse have been appointed to public utility commissions, and, of course, their work has been badly done. But would a public opinion which tolerates such appointments be any less tolerant as respects the selection of managers for municipally-owned utilities? It is hardly convincing to argue that the bosses who have dominated appointments in the one case would be powerless to do so in the other. For it is from the people that the boss derives his power. A community which cannot successfully regulate the rates and conditions of service on its street railways, for example, would hardly find the task of actually operating the lines to be any easier. Municipal ownership would double or treble the work, the responsibilities, and the difficulties.[1]

[1] "Under municipal ownership the city official is laden with the threefold problems of owner, consumer, and public. Regulation, as distinct from ownership, has in the main to do with public problems only. Hence it is more simple and consequently more efficient. . . . To place upon the public official the problems not only of service but also of operation and proprietorship is to overburden him and consequently to make him inefficient." Clyde L. King, *The Regulation of Municipal Utilities* (New York, 1914), p 52.

2. Municipal Ownership Means Lower Overhead Charges.

Under municipal ownership, it is claimed, a public utility could be operated with a smaller overhead expense. The chief items among the fixed or overhead expenses of a public utility company are the interest on its bonds and the dividends on its stock. It is a fortunate company that can obtain capital, either by the issue of bonds or shares, at a lower rate than six or seven per cent under present financial conditions. Cities can borrow money at lower rates because of the greater security which they offer the investor, and also because their bonds enjoy certain tax exemptions. The differential in favor of the city is at least two per cent, and often more. A saving of two per cent in overhead may not sound very large; but when a public utility company has outstanding bonds and stock amounting to many millions it counts appreciably.

There is the further consideration that under public ownership no fixed charges would be paid on intangible or fictitious values. What the city borrows and pays interest on, in connection with its utilities, represents actual investment, not an inflated capitalization. The private company not only pays a higher rate for its capital but it sometimes has an unnecessarily large capitalization on which to pay this higher rate.

Analysis of This Argument

This accusation as to the excessive capitalization of public utilities is often made, but rarely has it been supported by any statistical evidence that would stand scrutiny. The capitalizing of earning power and the watering of stock have doubtless been widespread evils among public utilities, but the exact extent to which they have been carried is not known because nc accurate data on the matter have been compiled.[1] Under such conditions one man's guess is as good as another's, although it is certainly not improbable that the reproduction cost of most public utilities today, at present prices of materials and labor, would exceed the amount of bonded indebtedness and capitalization carried on

[1] In the absence of such data various rule-of-thumb methods of estimating probable overcapitalization have been used. In a brief submitted to the Federal Electric Railways Commission in 1919, for example, Mr. W. Jett Lauck cited the fact that the average capitalization of the street railways in Massachusetts, according to the figures of 1912, was $57,778 per mile while the average capitalization of street railways in the other states, taking them all together, was $104,930 per mile. Inasmuch as Massachusetts has long had an anti-stock-watering law, he "inferred," therefore, a total overcapitalization of 45 per cent, or more than two billion dollars in the street railways of the entire United States.

their books. An interesting sidelight has recently been shed upon this question by the Interstate Commerce Commission which was authorized by Congress some years ago to make a physical valuation of the American steam railroads. When the commission began its work there was a general conviction that the steam railroads had been overcapitalized and were paying dividends on amounts far in excess of their physical value; but the progress of the valuation has thus far indicated no warrant for this popular impression. The physical value has proved to be, in most cases, measurably close to the total outstanding obligations. May it not also be that the accusation of stock inflation, so commonly made against other public utility corporations, is similarly exaggerated?

3. Municipal Ownership Would Secure Economies in Executive and Managerial Costs.

A third argument commonly advanced in favor of municipal ownership is that costs of operation would be reduced by the elimination of large executive and managerial salaries. Under private operation each public utility maintains its own executive organization, and this is sometimes an elaborate affair, including a president, one or more vice-presidents, an executive committee, a board of directors, and a general manager or superintendent. Some of these officials receive a higher salary than is paid to the mayor of the city in which the utility operates. Under municipal ownership, it is contended, there would be no need for presidents, vice-presidents, directors and the rest. One general manager for all the utilities, with a deputy in charge of each service (water, gas, electricity, and transportation), would be sufficient. The saving in the upper reaches of the salary list would thus be large. It is also argued that this consolidation of all the utilities under a single general head would conduce to economies in the buying of materials and supplies. A central purchasing office could be established and it would buy for all the utilities those staple materials and supplies which are now purchased independently—coal, for example. By buying wholesale and paying spot cash there would be a saving.

The retort usually made to this argument is that while utilities under private management pay large salaries they get what they pay for. In the open market and under competitive conditions a high degree of managerial skill commands a high price. It is easy to cut a manager's salary in two and lose the manager, putting an inferior man in his place. But such action

almost always proves to be false economy in the end. There may be some question whether the public utilities now get full value for the salaries they pay; but there is absolutely no question that in nine cases out of ten the city does not. To argue that it could get as good or better service by hiring fewer executives or paying them less money is to be oblivious to the whole course of municipal experience. So it is with materials and supplies. It is easy enough to theorize about the possibilities of having a central purchasing department which would buy materials for all the utilities in large quantities and at favorable turns in the market; but how does the average American city buy the supplies now required for its strictly governmental departments? The answer to that question, if honestly given, will determine the extent to which municipal ownership would bring lower operating costs.

4. Municipal Ownership Would Result in Better Treatment of Labor.

Municipal ownership, it is argued, would result in a more humane and more generous treatment of those who are employed in the various public utilities. Wages, as a rule, are higher in public than in private employments, the hours of labor have everywhere been reduced to eight per day; numerous holidays are allowed, and the discipline is more lenient. It is worthy of note that labor organizations are strongly in favor of public ownership and they frankly explain this attitude by the statement that the employees stand to gain by the change.[1] It is further contended that the city, by paying higher wages and giving more favorable conditions of employment, would set a standard which private business would in the long run be forced to follow. The eight-hour day was first established in the public service; then some quasi-public employments followed, and now private industries are gradually accepting it. Some industries pay less than a living wage; the city never does. Its poor relief and other eleemosynary departments, however, must often make good the social damage caused by the overwork and underpayment of labor in private employments. Some advocates of municipal

[1] In San Francisco and Seattle the municipalized street railways have been put on an eight-hour basis, although the problem of distributing the runs in such a way that the service will be properly taken care of, especially in the rush hours, is thereby made very difficult. The eight-hour day has also been adopted on the Boston Elevated Railroad which is now being operated by the public authorities. On most of the other street railways of the United States the working day averages nine hours or more.

ownership, notably Mr. George Bernard Shaw, have laid great stress upon "the beneficent social reactions" which they think would result from the adoption of the policy. The public authorities, they contend, should lead the way to the improvement of labor conditions. To do this they must have the opportunity to employ labor on a large scale. Taking over the public utilities would give them such an opportunity.

**5. Municipal Ownership Would Improve the Tone of Municipal Politics.**

The political advantages of municipal ownership are often asserted. The public utility corporations, it is pointed out, are under strong temptation to promote, openly or from behind the scenes, the election of public officials who will be friendly to them.[1] They accordingly form a part of what Elihu Root once designated as "the invisible government." Through their paid agents and lobbyists they endeavor to influence the action of mayors and city councils, even the action of state legislatures, in ways which profit the companies but may be quite inimical to the public interest. The ramifications of their political pressure are undeniably wide and sinister. It is only fair to say, however, that the public utility companies are not so nervously active in politics because they desire to be. Very often their activity is not a matter of choice. They have been driven to it by the instinct of self-preservation. Every municipal

[1] Here is the way in which an aggressive advocate of municipal ownership described the situation some time ago: "An examination of the conditions in city after city discloses one sleepless influence that is common to them all. Underneath the surface phenomena the activity of privilege appears, the privileges of the street railways, the gas, the water, the telephone, and electric-lighting companies. The connection of these industries with politics explains most of the corruption; it explains the power of the boss and the machine; it suggests the explanation of the indifference of the 'best' citizen and his hostility to democratic reform. Moreover, it throws much light on the excellence of some departments of city life and the inefficiency of others, for the interest of the franchise corporations is centered in the council, in the executive departments, and in the tax assessors. It does not extend to the schools, libraries, parks, and fire departments, departments which are free from the worst forms of corruption. But the city council awards franchises. It fixes the terms and the regulations under which the franchise corporations may use the streets. The executive enjoys the veto power. He controls permits, and exercises an influence upon the council and public opinion. The assessor determines the appraisal of property as well as the taxes to be paid. All these powers are of great importance, and their control of great value. The privilege of tax evasion may amount to hundreds of thousands of dollars a year. In the large cities it is measured by millions." F. C. Howe, *The City: The Hope of Democracy*, pp. 62-63.

demagogue regards the public service corporation as a fair target; he is ready to attack it, to promote legislation hostile to it, to put obstacles in its way. And the corporations, for their part, are not disposed to turn the right cheek to those who smite the left. They endeavor to pay the demagogue in his own coin by putting a candidate in the field against him and discreetly providing this opposition with the sinews of political warfare. It is a sheer delusion to suppose that a public utility corporation which keeps out of politics will be left alone. As a rule, it will be unmercifully cudgelled by every political bandit who finds that it can be attacked with impunity. The meek may inherit the earth, but they have no place in the hurly-burly of American municipal politics.

**6. Municipal Ownership Has Succeeded Where Tried.**

Finally, the friends of municipal ownership argue that wherever their policy has been given a full and fair trial it has proved successful. More particularly they point with pride to the achievements of municipal ownership in Glasgow, Manchester, London, and other British cities where various public utilities have been owned and operated by the municipality for many years. The claim is made, and supported by elaborate statistics, that both the German and British cities have not only made substantial profits from their municipal utilities but have been able to give good service at low rates. Considerable sums are shown to have been turned over each year into the general municipal treasury thus reducing the amount of money to be raised by taxation.[1] A glance at the financial reports of almost any European city will indicate that, ostensibly at any rate, a profit from the municipal operation of public utilities is being made. When, however, such reports are carefully analyzed the profitable character of the undertakings does not always appear to be so fully established. The capital accounts are sometimes inadequately debited with outlays made by the city in connection with its public utility enterprises; insufficient allowances for depreciation are frequently made; and rarely is any sum charged to the utilities in lieu of taxes. Sometimes the accuracy of the profit statement is vitiated by the practice of undercharging

[1] The *Kommunales Jahrbuch* for 1910 (p. 596), for example, places the net surplus realized by the Prussian cities from all public utilities at about seventy-two million marks, or eighteen million dollars at pre-war rates of exchange.

(or in some cases of overcharging) the other city departments for service, for example, charging the street department a low or a high rate for electricity. There are many twists and turns in accounting by means of which the financial showing made by a municipalized utility can be improved. In London, for example, where street improvements and widenings are made in connection with the extension of the municipal tramways, a very small portion of the cost is debited to the tramways account, and sometimes no portion of it at all. The general taxpayer, accordingly, assumes the entire burden. A private company, under similar circumstances, would have to pay a very large portion of the cost, or perhaps the whole of it. The municipalized utilities have the services of the city's law and financial departments without charge or at nominal cost; they frequently obtain offices in the city hall without paying for them; and they often secure the temporary use of regular city equipment from the street or parks departments without a rental charge.[1] Under such conditions it is not a difficult matter to turn in a surplus at the end of the year, but this surplus may fail by a considerable margin to reimburse the city for charges which it omitted to make. The determination of whether a municipal plant is yielding a real profit or incurring a concealed loss can only be made by an unbiassed, expert analysis of the accounts in each particular case, and very rarely is anything of this sort undertaken. Municipal ownership in European countries is highly profitable on the face of the accounts, and doubtless it is somewhat profitable in fact; but whether as much so as the accounts indicate is yet to be demonstrated by an impartial investigation.[2] Those who have aired their views on the subject are far from any agreement on this question of profit and loss.[3]

[1] These and various other features of municipal utility accounting are fully discussed in Douglas Knoop, *Principles and Methods of Municipal Trading* (London, 1912), especially Chapters v and viii.

[2] Seventeen years ago the National Civic Federation undertook an exhaustive study of this matter but its investigators could reach no definite conclusion because of the accounting and other intricacies involved. The figures compiled during this investigation may be found in the *Report on Municipal and Private Operation of Public Utilities* (3 vols., New York, 1907).

[3] Compare, for example, such books as Yves Guyot, *Where and Why Public Ownership Has Failed* (New York, 1914), and F. C. Howe, *European Cities at Work* (New York, 1913).

Is Europe's Experience Applicable?

Conceding, however, that the policy of municipal ownership has been a financial success in Europe, does this afford ground for believing that it would be a similar success in the United States? One can hardly be sure that it does. The European city, in its business activities, is subject to administrative supervision only, and this type of supervision is flexible. The American city, by way of contrast, is tightly bound in the trammels of legislative limitation, with a debt limit imposed upon it, and sometimes a tax limit also. It does not possess, as a rule, that range of authority and discretion which is necessary to the successful conduct of a business enterprise. While not always insuperable, the legal obstacles are "sufficiently formidable to render the prospect of municipal ownership unattractive and discouraging."[1] European cities, moreover, as an earlier chapter of this book has shown, maintain high standards of administrative personnel. They appoint capable men to the headships of departments; they do not require such men to spend a large part of their time in political activities; they protect public servants against dismissal without proper cause; and they give to their city officials a degree of power which is commensurate with the responsibilities involved. All this is the European municipal tradition. But in the United States the administration of the cities is carried on under no such arrangement. Partisan appointments and partisan removals, political activity on the part of officeholders, political pressure on the part of spoilsmen and patronage-seekers, padded payrolls, the award of contracts to political favorites, the sacrificing of civic efficiency to the needs of the party machine—these things still flourish in American cities despite many years of hard battling to remove them. Their presence makes it unwise to reason from the experience of European cities in any field of municipal activity.

Arguments Against Municipal Ownership.

The opponents of municipal ownership have devoted a large share of their attention to the matter of operating expenses. It is their contention that public operation can be shown to be more expensive whenever a thorough analysis of the figures is made.[2] Whether this contention is sound or not one cannot say, because

[1] H. L. McBain, *American City Progress and the Law* (New York, 1918), p. 157.

[2] Seattle's brief experience in operating a street railway system is being cited as an illustration. In the first place the city bought the lines from a private company at a far higher price than they were worth. The operat-

1. The Higher Operating Expense.

the accounts which the cities keep are not always trustworthy. The books of municipalized utilities are often kept in a loose and unsystematic way which would not be tolerated by any private company.[1] It is impossible, in many cases, for even an expert investigator to find out what the operating expenses really are. When a surplus is actually earned it may be by permitting the plant to deteriorate or by maintaining rates at a higher figure than the official statements disclose.[2] Financial statements in any event do not tell the whole story. The physical features of the utility, its technical progress, and the quality of the service which it gives are matters of equal importance with profit and loss, but a mere survey of rates and balance sheets will throw little light upon them.

Theoretically there is no reason why a public service should not be as economically operated by a city as by a private company. Materials, supplies, and labor have a rock-bottom price in the open market; there is no intrinsic reason why the city should have to pay higher figures. But there is a practical reason, as history discloses. European cities are better equipped than those of the United States when it comes to purchasing materials or hiring labor but even the best-administered among European municipalities can be relatively wasteful on occasions. This has been abundantly shown, in Great Britain, Germany, and France alike, during the years since the close of the war.[3] In the United States the notion that a city can conduct any form of business as economically as a private company is an optical delusion which even a cursory investigation of municipal methods

ing expenses have increased, moreover, to a point where the system is barely self-supporting with the fare at ten cents, or three tickets for a quarter.

[1] "When the Wisconsin Commission investigated the finances of municipal plants it found that books were kept by but few, and that, in the main, the only memoranda were check-book stubs. The bookkeeping affairs of one municipal plant were kept in a vest-pocket account book, tied with a woolen string." Clyde L. King, *The Regulation of Public Utilities* (New York, 1914), p. 53.

[2] There are various ways of doing this. A municipal plant, for example, may announce a low rate per kilowatt hour for electric current. Then, by imposing a minimum charge per month, or a charge for meter rental, or by some rules concerning the purchase or replacement of lamps, it may manage to secure a considerably larger income from the consumer than the published schedule of rates would indicate.

[3] In British cities the public reaction against municipal wastefulness manifested itself in an "anti-waste" campaign which turned a great many borough councillors out of office at the elections of 1921-1922.

will quickly dispel. No private company which conducts its business according to the methods by which the average American city paves its streets or builds its sewers or cares for its public buildings could long keep out of bankruptcy. There are some exceptions—some well-managed cities and some badly-managed companies, it is true—but the general proposition is beyond dispute. If evidence be needed, there are mountains of it in the records and reports of investigating bodies, both public and private, from one end of the country to the other.[1]

2. The Undue Influence of Labor in Municipal Utilities.

Municipal ownership involves a large addition to the staff of city employees. It is right that the municipality should give its employees adequate wages and fair conditions of labor in accordance with the standards of the day; but municipal employees are not usually content with this. They expect more in all respects than the private employer gives, and they are in a better position than private employees when it comes to making their demands effective. The municipal employee is a voter; he helps elect the governing officers of the city; to that extent he is his own employer. Even in cities where the public utilities have not been municipalized, the municipal employees, together with their near relatives and friends, constitute an element in local politics which cannot be ignored; to double or treble their strength would be to make them a factor of decisive importance in many municipal campaigns. Now the idea of giving the worker a share in determining his conditions of labor is not *per se* objectionable; but the elevation of such issues to a place of supreme prominence in municipal campaigns is hardly a consummation to be desired.

Labor and Public Employment.

If the policy of municipal ownership could guarantee increased efficiency, continuity of service, and the elimination of strikes on the part of the workers in public utilities, these things might compensate a community for the higher wages and more favorable conditions of labor which the policy seems necessarily to involve. But it affords no such guarantees. In general it has not been found that the transfer of a public utility from private to municipal operation brings any increase in labor efficiency. Almost without exception the municipalization of a public utility has involved an immediate increase in the labor force required, sometimes a very large increase. More workers, higher wages,

[1] The seventeen volumes which contain the records and reports of the Boston Finance Commission (1909-1922), for example.

fewer hours, more time off, and less work accomplished per man —that is the usual (although not the invariable) result of transferring any enterprise from private to public ownership. The worker in the public employ insists upon the unfettered retention of the right to strike at any time irrespective of the damage or inconvenience that such action may cause. The worker makes no distinction in this respect between the city and a private company; he insists upon retaining his weapon for use against either or both. Labor is willing to assume participation in the management of public utilities but is not ready to assume any responsibility for the maintenance of uninterrupted service.

**3. The Deadening Effect upon Public Utility Progress.**

Industrial progress has been due to individuals rather than to governments. The men who discovered the processes of lighting by gas and electricity, of transmitting the human voice over a telephone wire, and of propelling a car by electric current—none of them were government officials. A government rarely invents; it waits for private enterprise to make the experiments and take the risks of loss. It is only when the venture proves profitable that governments step in. In European cities where the building of public utilities by private enterprise has been discouraged, the services are far less extensive than in America. A comparison of the relative load on street railway trackage in any comparable cities of the two continents will illustrate this.[1] And where the municipalities take over the private plants they usually slow down in point of expansion and technical progress. They do not, as a rule, serve their territory so adequately as the private companies or show the same zeal in trying to develop new business. They expend less thought in developing their equipment to meet new demands. An investigation of municipal and private lighting plants in Massachusetts a few years ago brought out this shortcoming quite clearly.[2]

[1] The population served, per mile of street railways, in typical American and British cities prior to the war was as follows:

| | | | |
|---|---|---|---|
| Boston | 5,214 | Birmingham | 13,512 |
| Philadelphia | 5,748 | Liverpool | 11,737 |
| Chicago | 6,560 | Glasgow | 11,660 |
| New York | 8,586 | London | 21,076 |

*Report of the Special Sub-Committee on the Passenger Transportation Problem*, issued by the City of Manchester Tramways Department (Manchester, 1915), p. 96.

[2] E. E. Lincoln, *The Results of Municipal Electric Lighting Plants In Massachusetts* (Boston, 1918), especially pp. 359-360.

The conservatism of the municipality in public utility management is not difficult to understand. Its officials are not in office for long terms; why should they venture upon experiments which, if successful, will redound only to the credit of their successors? The head of a public utilities department cannot introduce new methods and mechanism on his own decision; he must usually have the approval of the mayor and an appropriation from the city council. Often there must be a public hearing. If there is danger of opposition from any quarter, the strong temptation is to leave things as they are.

**Labor's Aversion to Methods That Are New.**

Labor, too, is usually averse to innovations in the conduct of the utilities. New appliances displace labor, as for example, when automatic lighting and extinguishing devices are installed in connection with the system of street-lighting by gas, or when one-man cars are put into service on the street railways. New processes change the worker's duties or compel a readjustment of his work. And although labor leaders declare that they are not hostile to new processes or to new machinery they seldom fail to show themselves so when the innovations put workmen out of employment or give each worker more work to do. The manager of a municipalized utility, if he resorts to frequent changes in the interest of progress and economy, will incur the hostility of labor organizations and endanger his own position. It is not surprising, under these conditions, that he should spend little thought on innovations, and should find it much more comfortable to travel in a rut.

**4. American Experience in Municipal Ownership Has Not Been Such as to Warrant an Extension of the Policy.**

Although American cities have not had so extensive an experience with the policy of municipal ownership as has been enjoyed by their prototypes across the sea, there has been enough of it in this country to afford some illustration of its merits and defects. This has been particularly true of electric lighting, there being several hundred municipal plants engaged in this service, some of them very large. The data relating to American municipal experience in this field is very extensive and no one who undertakes a study of it will lack material, for not only are there census compilations and reports of public service commissions, but there are annual statements relating to each municipal plant. Almost any conclusion that one wishes to draw can be drawn from this welter of statistics. One can demonstrate to his own satisfaction that Chicago has made a great success of municipal

lighting or that Seattle has made a greater failure in the field of municipal transportation. But his conclusions will not be accepted by the other side. The truth, as is usually the case, lies between the contentions of the extreme partisans. As managers of electric lighting plants the cities of the United States have not provided a record of unalloyed failure by any means; on the other hand it is only a partisan who would venture to speak of their experience as an invariable success. A few have done very well, a few have done very badly; the rest are merely doing what private companies would have done if they had been left alone, and doing it rather less economically. The ratio of success seems to be proportioned to the general efficiency of government among American cities. A well-administered municipality, with good political traditions, is able to conduct its public utilities on the same plane as its governmental departments, such as police, fire protection, and schools. But there are not many cities whose good fortune it is to be in this category. In the case of the great majority among American municipalities it is faint praise to assert that they manage their business enterprises as well as their governmental activities. The truth is that most American cities are not well fitted by tradition or by organization to carry on a technical business either profitably or satisfactorily.[1]

**5. Municipal Ownership Would Turn Municipal Democracy into Municipal Bureaucracy.**

Democracy means, or seems to mean, government by amateurs. It can be argued, of course, that the theory of democratic government does not preclude the appointment of experts, or security of tenure, or reasonable freedom of action on the part of the skilled administrator. But in actual practice the current American conception of municipal democracy does interpose a formidable barrier to all of these things. It insists upon relatively short terms, on the right of removal as applied to the higher officials (whether by recall or by some other means), and on a system of checks and balances. In a word it insists upon "keeping government close to the people." This conception of democracy, which is all-too-slowly loosening its grip on the

[1] One of the assertions in the Report of the Federal Electric Railways Commission (1920) is as follows: "We do not believe under present conditions that this method of operation (municipal ownership) would be successful in most of the cities of the United States today" (p. 2288). This opinion was concurred in by all the members of the commission, even by those who felt that municipal ownership would ultimately be a desirable policy.

minds of the people in American cities, is not compatible with a high degree of administrative efficiency. Those foreign cities which have made a marked success of their business enterprises, notably those of Prussia, have been able to do it by creating a bureaucracy or great network of professional officials. It is quite possible that by creating a similar bureaucracy, chosen on a basis of merit, stanchly entrenched in office, and given prætorian powers, the American city could also make municipal ownership a success. But the American conception of democracy and this conception of efficiency do not yoke together. One can be sacrificed to the other easily enough; it is seemingly impossible to maintain both and sacrifice neither.

## REFERENCES

In the *Bibliography of Municipal Utility Regulation,* published by Don L. Stevens some years ago (Cambridge, Mass., 1918), there is a long section devoted to Municipal Ownership (pp. 309-378). This includes, with descriptive and critical notes, all the worth-while material, both books and articles, printed before 1918. Later material may be found by using the *List of Bibliographies on Public Utilities, including Regulation, Valuation and Municipal Ownership,* issued by the Library of Congress, Division of Bibliography (Washington, 1921).

For more than a dozen years no comprehensive and impartial enquiry into the workings of municipal ownership has been made either in Europe or in America. In 1906 the National Civic Federation, through a commission representing both sides of the controversy, undertook such an investigation, the results of which were published in the following year—*Municipal and Private Operation of Public Utilities* (3 vols., New York, 1907), and much of the material in these volumes is still useful. Shortly thereafter the *Verein für Socialpolitik* published a series of volumes on *Gemeindebetriebe* (3 vols., Leipsic, 1908-1910), summarizing the results in various cities of Germany, France, Italy, Great Britain, and other countries.

Many books of widely-varying quality have dealt with the subject in its broader aspects during the past fifteen years. Among the books favorable to the policy of municipal ownership, the best known are F. C. Howe, *European Cities at Work* (New York, 1913); A. Emil Davies, *The Case for Nationalization* (London, 1920); George Bernard Shaw, *The Commonsense of Municipal Trading* (London, 1908); C. D. Thompson, *Municipal Ownership* (New York, 1917), and the same author's *Municipal Electric Light and Power Plants in the United States and Canada* (Chicago, 1917); National Civic Federation, *Shall the Municipalities Own Their Utilities? The Affirmative Side* (New York, 1915); A. M. Todd, *Municipal Ownership, with a Special Survey of Municipal Gas Plants in America and*

*Europe* (Chicago, 1918), and the Bulletin (No. 18) of the Public Ownership League of America entitled *Municipal Railways in the United States* (Chicago, 1922). On the other side of the question, arguments and data may be found in Douglas Knoop, *Principles and Methods of Municipal Trading* (London, 1912); Yves Guyot, *Where and Why Public Ownership Has Failed* (New York, 1914); Leonard Darwin, *Municipal Ownership* (New York, 1907); R. P. Porter, *The Dangers of Municipal Ownership* (New York, 1907); Lord Avebury, *On Municipal and National Trading* (London, 1907), and W. G. Towler, *Socialism in Local Government* (London, 1909). Mention should also be made of the *Report of the Special Committee on Government Ownership and Operation of Public Utilities* (New York, 1919), prepared by the Merchants' Association of New York, and the National Civic Federation's 119-page pamphlet entitled *Shall the Municipalities Own Their Utilities? The Negative Side* (New York, 1915). Mr. Knoop's volume (above referred to) contains a discussion of the official sources from which statistics relating to municipal ownership in Great Britain may be obtained (pp. 389-393). There is a good chapter on "Trading Enterprises" in W. H. Dawson's *Municipal Life and Government in Germany* (London, 1914). Raymond Boverat's *Le socialisme municipal en Angleterre* (2d ed. Paris, 1912), and Leon Cammen, *Government Ownership of Public Utilities in the United States* (New York, 1919), are also worth mention, although the latter deals only with the broader phases of the subject.

A volume of *Selected Articles on Municipal Ownership* (3d edition, Minneapolis, 1918), is included in the Debaters' Handbook Series. This handbook contains material on both sides of the issue.

A considerable amount of data relating to American experience with the policy of municipal ownership may be found in E. E. Lincoln's *The Results of Municipal Electric Lighting in Massachusetts* (Boston, 1918), which contains a good bibliography (pp. 373-387). Particular attention should be drawn to Dr. Delos F. Wilcox's *Analysis of the Electric Railway Problem* (New York, 1921), especially Chapters xxiv and liv, and to the National Electric Light Association's report on *Government Owned and Controlled compared with Privately Owned* and *Regulated Electric Utilities in Canada and the United States* (New York, 1922). The *Proceedings of the Public Ownership Conferences* of the Public Ownership League of America (Chicago, 1919) are likewise worth noting.

There is a short discussion of municipal ownership in *Bulletin No. 22* of the Massachusetts Constitutional Convention (Boston, 1918); in H. W. Laidler, *Public Ownership Throughout the World* (New York, 1918), in the *Resolutions on Government Ownership* (New York, 1916), issued by the Merchants' Association of New York, and in the *Proceedings of the Conference of American Mayors on Public Policies as to Municipal Utilities* (January, 1915).

The legal rules and decisions relating to municipal ownership are discussed in Judge Dillon's *Commentaries on the Law of Municipal Corporations* (5 vols., Boston, 1911); and very briefly in H. L. McBain's *American City Progress and the Law* (New York, 1918), pp. 153-173. They are also

exhaustively dealt with in Eugene McQuillin, *A Treatise on the Law of Municipal Corporations* (Vols. 1-6, Chicago, 1911-13; Supplementary Vols., 7 and 8, Chicago, 1921), Vol. IV, Chapter XXXV (pp. 3789-3868) Municipal Ownership of Public Utilities; Chapter XXXVI (pp. 3869-3880) Municipal Trading; Vol. VIII, Chapter XXXV (pp. 7652-7657) Municipal Ownership of Public Utilities; and Chapter XXXVI (pp. 7658-7660) Municipal Trading.

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# CHAPTER XLIII

## MUNICIPAL REVENUES

**The Need for Money.**

Among all the problems of municipal administration there is none more important, or more difficult, than that of getting the large sums of money which are needed, year by year, to carry on the city's business. The financial needs of the cities, alike in Europe and in America, have been increasing more rapidly than their population, their wealth, or their income from the usual sources. Everywhere the cry is for more service from the community, for better service, for service that costs more money. The more popular a government becomes, the more costly it is. Year by year it assumes, in obedience to the popular demand, new functions, and having assumed a new function the government never drops it. Not long ago a large American city issued a tabulation showing the new responsibilities that it had assumed during the past twenty years. The list was surprisingly large and included many functions which involve heavy annual expenditures.

**This Need Keeps Forever Increasing.**

Municipal government follows what economists call the "law of increasing costs"—in other words the larger the city's population the greater is the per capita cost of serving this population. It might be thought that doing things on a large scale—in public education, for example—would mean a smaller cost per unit; but this is almost never the case. The per capita cost of government varies directly with density of population. In a growing city, therefore, there can be no hope that the problem of ways and means will ever become simpler. Everywhere one can find municipal optimists who feel that "if we only had more industries, more buildings going up, and more people coming to the city, there would be more property to pay taxes and the problem of making both ends meet would solve itself." It is a futile hope. More industries and more people do not simplify the city's financial problems but make them more difficult.

The Chief Sources of Municipal Revenue.

Where does the city's revenue come from? It comes from a variety of sources—subventions from the state or national government, fees, rentals, earnings of public utilities, and taxes of many kinds, including taxes on property and incomes, business and license taxes, poll taxes, and special assessments. In the cities of Europe large revenues are derived from sources other than taxation, particularly from subventions, and from the profits of municipal enterprises. In German cities prior to the war more than half the gross annual revenue was obtained in this way. The English cities also receive considerable amounts from the national treasury.[1] Nearly half their income is derived from sources other than direct taxation. In the United States, on the other hand, about 70 per cent of the gross municipal income, on the average, is obtained by direct taxation, chiefly by levying a general property tax. Of the rest, about 10 per cent comes from the earnings of public service enterprises, and about 20 per cent from fines, fees, rentals, privileges, special assessments, gifts, trust funds, and miscellaneous sources.[2]

The Nature of Taxation.

Before attempting to explain how cities derive their revenue from taxation a few preliminary explanations are in order. Taxes differ from most other payments in two respects. First, they are compulsory. No one need pay interest, rent, wages, or prices unless he bargains to do so; but the payment of taxes is not the result of any bargain. Taxes are levied without any reference to the initiative or wishes of the individuals upon whom they may fall, except, of course, in so far as these individuals by their votes may have an influence in determining the general taxing policy of the government. Second, taxes are not payments made to the government by individuals and corporations in return for services rendered. The man who rides a hundred miles on a railroad pays twice as much as one who goes half that distance, because he gets twice as much for his money. But the man who pays a thousand dollars in taxes does not get twice as much in benefits from the government as the one who pays only five hundred dollars.

[1] For a discussion of these subventions, see J. Watson Grice, *National and Local Finance* (London, 1910), pp. 31-94; also Sidney and Beatrice Webb, *Grants in Aid—A Criticism and a Proposal* (new edition, London, 1920).

[2] United States Bureau of the Census, *Financial Statistics of Cities, 1921* (Washington, 1922), p. 90. The proportion of municipal income raised by taxation has somewhat increased during the past ten years.

Taxes Are Not Proportioned to Benefit.

Nearly all payments that we make are in the form of a *quid pro quo;* they are in proportion to the benefits which we receive. This is the case in payments for all forms of goods or services—the one great exception is the payment of taxes. Taxes have no direct relation to benefit; those who pay very little in taxes, either directly or indirectly, sometimes receive a large return in the form of public services. Take, for example, the taxes that support the public schools. The fact that a wealthy man has no children, or prefers to send his children to a private school, does not relieve him of the obligation to pay his full share of what public education costs the community. On the other hand, a man whose contribution in taxes is very small may send a dozen children, one after another, through the public schools without any extra cost.

The Reasons for This.

It would not be possible to base taxation upon service, because there is no way of knowing how much benefit each individual receives from the government's work. Do some individuals, for example, obtain more benefit than others from the maintenance of law and order, or do all derive advantage alike? Who gets the greater benefit from clean streets, the rich man who drives his motor car over them, or the poor man whose children use the streets as a playground? Taxes could not be adjusted to benefit. And even if they could be proportioned, it would be unwise to proportion them. The general interest requires that everyone should enjoy the advantages of police protection, the public schools, the parks, and the public health service whether he is able to pay for them or not. Many public services which are now paid for out of the general taxes were at one time supported by charging only those who made use of them. The first macadam roads were built by private companies which collected a few cents in toll from every vehicle using them. Toll bridges were not uncommon a generation ago and they still exist in some places. There was a time when even elementary education had to be paid for by those whose children received it. Before regular police forces were established, well-to-do people hired watchmen to patrol the streets around their property, the poorer sections of the city being left without any protection at all. Fire protection and sanitation were originally private enterprises. One by one the city has taken over these various services and made their maintenance a common burden. The most

common measure of the burden placed upon each individual is his assumed *ability to pay* and not the amount of benefit that he receives.[1]

Taxes Are Adjusted to Assumed Ability to Pay.

How do the makers of the tax laws customarily proceed to apply this principle of ability to pay? It is done by taking some such thing as property or income as the basis. Those who have more property or income are called upon to contribute more than those who have less. About a hundred and fifty years ago a famous writer on economics, Adam Smith, laid down four principles to which all taxation should conform. These maxims of taxation are now broadly recognized as valid and are worth remembering. Briefly stated, they are as follows: People should be taxed "as nearly as possible in proportion to their respective abilities"; all taxes should be definite and not uncertain or arbitrary; they ought to be levied at the time and in the manner which causes the least inconvenience to the people; and they should be so contrived as to take out of the pockets of the people as little as possible over what is needed by the public treasury. Those who make the tax laws do not always heed the last three of these maxims, and taxes are sometimes levied on the simpler principle of getting the most money with the least trouble.

The Canons of Taxation.

The City Possesses No Inherent Power to Tax.

A municipal corporation has no inherent power to levy taxes. It must obtain this authority from the legislature by general or special grant, and the grant must be in express terms. The power to tax will not be implied. In practice the authority to levy taxes is conferred upon cities in a very explicit way with limitations as to what may be taxed and how. It has sometimes been argued that the city should have home-rule in determining how it shall obtain its revenues, just as it now possesses a large

[1] Although the expression "ability to pay" appears on almost every page of legislative debates relating to taxation, it is by no means so simple an expression as it sounds. Very few economists would agree upon a definition of "ability to pay," and still fewer would agree that it is an acceptable basis of taxation. The same is true of another expression—"equality of sacrifice." No doubt, the rich man's ability to pay taxes is greater than the poor man's; but so is his ability to pay for bread or for admission to a theatre. Does it follow that he ought to be mulcted more heavily at the bakery and the box-office? Why should taxation be singled out for the application of a special principle? For a clear and cogent discussion of this question see F. W. Taussig's *Principles of Economics* (2 vols., New York, 1915), Vol. II, pp. 488-490.

amount of self-determination with reference to the ways in which these revenues shall be spent; but the lawmakers have not been disposed to view the matter in that light. It has been deemed desirable that there shall be, among the cities of the state, a general approach to uniformity in the exercise of their taxing powers.

**Types of Taxation: The General Property Tax.**

The general property tax is the main reliance of the American city. On the average it produces about 65 per cent of the entire municipal revenue. This tax, in its traditional form, is levied upon the assessed value of "all property, real and personal, not specifically exempted by law." Real property includes all land, together with all buildings and other physical improvements upon the land.[1] In some cases, moreover, certain rights attaching to land (such as rights of way, or franchises) are by law designated as real estate for purposes of taxation. Personal property includes, on the one hand, *tangible* things such as household and office furniture, merchandise in shops and warehouses, motor vehicles, and so forth, and, on the other hand, *intangibles* such as stocks, bonds, bank deposits and other evidences of property. Taxes on property are levied upon the valuation as determined by a formal assessment. The rate of taxation is fixed at so many mills on each dollar of assessed valuation, or so many dollars per thousand.[2] It is the characteristic of a *general* property tax that all taxable property, whether real or personal, tangible or intangible, shall be taxed at the same rate.

**The Assessment of Property for Taxation.**

The levying of taxes, as has been said, is always preceded by a formality known as the assessment. This is a formal valuation of the property which is to be taxed. The work is done by officials commonly known as assessors who re-appraise the property at regular intervals, basing their figures upon the market value of the property at the time the assessment is made. In most cities, however, it is placed somewhat below this assumed market value, and occasionally it is set a considerable distance below.[3] The assessors go about the city from place to place and

[1] The distinction between real and personal property is not always self-evident. Take, for example, the telephone poles in the city streets, or the wire conduits under the streets. Or the subways. Are these things real or personal property?

[2] For example, twenty mills on the dollar, or two dollars per hundred, or twenty dollars per thousand.

[3] In Boston, Newark, Minneapolis and Atlanta, for example, the assessment

set down in their books a tentative valuation.[1] Real and personal property are assessed separately, and in the case of real property a distinction is sometimes made between the land and the buildings. It is desirable that land and buildings should be valued separately, even though this is not always a simple thing to do. In any event the methods used should be uniform throughout the entire city; property in one section should not be assessed on a different basis, even on a slightly different basis, from property in another.[2] For this reason the valuations made by individual assessors should be gone over, so far as is practicable, by the board of assessors as a whole.

**Equalizing the Assessments.**

When the assessors have completed their work each property owner is notified of his assessment and of the rate of taxation levied thereon. An opportunity is given him to appeal from the assessment if he thinks that it has been placed too high. This appeal, as a rule, is first heard by the assessors themselves, or by a local board of revision. Then, if the decision is not satisfactory to the owner, he may carry a further appeal to some higher authority. Such higher authority may be the county commissioners, or it may be a special board of revision appointed for the purpose. This board hears individual appeals and determines them, its decisions being ordinarily final. In practically all the states there is, moreover, a state board of equalization or review; but this body does not commonly hear individual appeals.[3] Its function is to ad-

is a full 100 per cent of the market value; in New York City it is estimated to be about 97 per cent of market value; in Philadelphia, 90 per cent; in Toledo, 80 per cent; in Chicago, 75 per cent; and in San Francisco, only 50 per cent. See the table printed in the *National Municipal Review*, Vol. XI, pp. 414-415 (December, 1922).

[1] In some cases the assessments are made by county assessors and the city merely accepts their figures without making any separate assessment of its own.

[2] Considerable attention has been given, in recent years, to improved methods of assessing real property, and more particularly to the scientific assessment of land values in the downtown sections of large cities. The best short explanation of these methods is that given in Lawson Purdy's *Assessment of Real Estate*, printed as a supplement to the *National Municipal Review*, Vol. VIII, pp. 511-527 (September, 1919).

[3] The titles, organization, and powers of these boards vary greatly in different parts of the country. As they rarely have sufficient authority, or sufficient information concerning property values in the different municipalities, their work has been, on the whole, rather poorly done. For an inclusive discussion of this matter, see H. L. Lutz, *The State Tax Commission* (New York, 1918).

just the burden of state taxation between different municipalities.[1]

The Need for Improvement in the Work of Assessing City Property.

There are few things more inefficiently done in American municipal administration than the work of assessing property for taxation. The chief reason for this is the failure to recognize the fact that valuing and re-valuing property, especially in large cities, is a difficult, technical task, requiring a high degree of expertness. Real estate values fluctuate considerably, even within short periods of time. The real estate market is one of the most difficult to follow; even those who make a specialty of buying and selling property often go astray in their estimates of valuation. Nevertheless, in the great majority of American cities the work of valuing property for taxation is entrusted to amateurs who have no special qualifications in this field. The assessing of property has been regarded as a job which any able-bodied citizen can perform without instruction or experience. In keeping with this doctrine the usual practice, during the greater part of the nineteenth century, was to elect the local assessors by popular vote. This practice still exists in many cities although it is being gradually abandoned. In practically all the larger municipalities, and in many of the smaller ones as well, the assessors are now appointed by the mayor, or by the city commission, or by the city manager.[2] This is a step in the right direction, for competent assessors can rarely be secured by the process of popular election.

Proposed Methods of Appointment and Supervision.

But it is not enough to make the office appointive. Mayors and commissions, when left to their own discretion, are likely to appoint assessors whose qualifications are chiefly political and whose work will be poorly done because of their incompetence. There is something to be said for putting the assessors under civil service rules and selecting them by competitive tests; but public opinion has not yet taken kindly to this proposal.[3] In a

[1] In levying a state tax, where such tax is levied, the local assessments are taken as a basis. It is essential, therefore, that these local assessments shall be brought to a reasonably uniform standard.

[2] In New York City the Board of Taxes and Assessments is composed of a president and members appointed by the mayor. In Chicago the assessments are fixed by the Board of Assessors of Cook County, the five members of which are elected by popular vote. In Buffalo the assessors are appointed by the city commission; in Cleveland under the new charter they are to be appointed by the city manager.

[3] "Assessors should be appointed after a thorough civil service examination designed to test their ability to appraise real estate. The questions asked in

number of states the attempt is being made to improve the work of municipal assessors by providing them with skilled supervision. This supervision is exercised, as a rule, by the state tax commission or commissioner who may revise local assessments or may even, in some cases, remove the local assessors for incompetence or neglect of duty. In two instances the state authorities, some years ago, took the appointment of municipal assessors directly into their own hands; but this action provoked a great deal of local resentment and it was presently abandoned.[1] It is altogether probable, therefore, that assessors will continue to be appointed by the municipality, not by the state, but that an increasing degree of state supervision will be exercised over their work.[2]

**The Difficulty of Assessing Intangibles.**

Even with competent assessors there is one form of property which is, in the nature of things, very difficult to assess for taxation. This is the class of personal property known as intangibles, including stocks, bonds, notes and other securities. Real estate and tangible personalty are in full view; but securities are stowed away in a safe-deposit box. There is no way in which the assessor can estimate the value of such property unless the owner discloses it. The consequence is that where intangible property is assessed and taxed on its full value and high rates, a great deal of it is bound to escape taxation altogether. In some cities the assessors send out forms on which owners are requested to indicate the value of their intangible property; but most of those forms are never returned, hence there is nothing to do but make a guesswork assessment which may be, and usually is, far wide of the actual value. An individual's scale of living affords the assessors no sure guidance because his

such an examination should involve the actual problems presented to the assessor. The examination should be so difficult that no man without technical knowledge of assessing real estate should be able to pass it. . . . When appointed they should hold office so long as they perform their work properly." Lawson Purdy, *The Assessment of Real Estate* (3rd edition, New York, 1923), p. 6.

[1] These were Ohio and Montana which adopted the plan in 1913 and gave it up in 1915.

[2] See the article on "The State Tax Commission and the Property Tax" by H. L. Lutz, in the *Annals of the American Academy of Political and Social Science*, Vol. XCV, pp. 276-283 (May, 1921). Attention may also be called to the experience of Wisconsin where the income tax assessors, who are completely under the control of the State tax commission, also have supervision over the local assessment of property.

income may be derived from intangibles on which the tax has been paid at the source, that is, directly by the corporation which has issued the securities. To tax intangibles at the same rate as other property, moreover, is extremely unfair, for it means that the owner must usually pay in taxes from one-third to one-half of the income which he derives from his stocks or bonds as the case may be. Rather than do this he will conceal the property or remove it from the tax jurisdiction of the city altogether.

The Evasion of Taxes on This Form of Property.

For this reason the general property tax has worked badly in most urban communities. Since a large part of the taxable property held by the well-to-do in cities is in the form of intangibles and since this cannot be effectively reached by the ordinary processes of assessment a heavier burden is placed on real estate.[1] The evasion of taxes by intangible property, moreover, is subversive of public morals. The attempt to tax stocks and bonds at the same rate as tangible property leads to tax-dodging and dishonesty on a large scale. Professor Seligman declares that "the general property tax, as actually administered today, is beyond all peradventure one of the worst taxes known to the civilized world."[2] The value of property, he believes, is no longer a criterion of taxpaying ability. The income from property is a better index of the taxpaying power which the property represents.

Breakdown of the General Property Tax.

The attempt to tax all property at a uniform rate being foredoomed to ultimate failure as a method of producing adequate revenue in larger cities, various modifications in the tax system are now being made. One plan is to continue taxing real estate and tangible personal property at a uniform rate as heretofore, but substituting for the tax on the value of intangibles a tax on the income derived therefrom. In an increasing number of

[1] To prevent this burden from becoming too onerous some of the states have imposed tax limits upon the city authorities. This is usually fixed at so much per dollar of property valuation, say one-and-a-half or two cents per dollar. In the cities of Indiana it is provided by statute that if any ten or more taxpayers feel that a proposed tax rate is too high, they may appeal to the State Board of Tax Commissioners which shall then hold a hearing on the matter. If the board finds the rate excessive, it may order the city authorities to make a reduction. This is a striking illustration of the growth of administrative (as distinguished from legislative) supervision over the tax rates of the cities. See the *Indiana Law Relating to the Assessment and Taxation of Property* (Section 200) revised to January 1, 1922, and issued by the State Board of Tax Commissioners.

[2] *Essays in Taxation* (9th edition, New York, 1921), p. 62.

states this method is now being followed. Every taxpayer is called upon to make a sworn annual return of his income (other than income from real estate and from exempt securities), provided this income exceeds a certain minimum. He is then taxed on this income at a fixed or progressive rate provided by law. In some cases the income derived from different sources is taxed at different rates. The assessment and collection of these income taxes is in the hands of the state, but most of the proceeds are in some cases apportioned among the municipalities. The detailed provisions relating to the taxing of incomes vary so greatly in the different states that even a general summary of them would be impracticable.[1]

The Classifying of Property for Taxation.

In some other states endeavors have been made to remedy the defects of the general property tax by grading or classifying property in such way that different rates of taxation may be levied.[2] The outstanding purpose of classification is to enable the levying of a lower rate on intangible property than on other forms. This plan has been used with satisfactory results in Pennsylvania, Connecticut, Maryland, and various other states. The proposal has been made to carry the classification farther, so that a differentiation may be made between land and buildings, and even between different types of buildings. But as yet no American state has been persuaded to carry the principle of classification to that point.[3] In some states there is a legal difficulty in the fact that the state constitution requires the levy of all taxes to be "proportional," in other words that taxes shall be levied on all taxable property (whether real or personal) at a uniform rate.[4] Attempts to relax this requirement of uniformity have usually failed because the people hesitate to en-

[1] For a full discussion see E. R. A. Seligman, *The Income Tax* (New York, 1914); Alzada Comstock, *State Taxation of Personal Incomes* (New York, 1921), and the *Proceedings of the National Tax Association* (1920), pp. 274-329 (1921), pp. 301-337.

[2] See H. L. Lutz, *The Classification of Property for Taxation* (Columbus, 1919).

[3] In Minnesota, however, there is a fourfold classification, namely: Class I, Iron ore, assessed and taxed at 50 per cent of its true value; Class II, Household goods and wearing apparel at 25 per cent; Class III, Live stock and agricultural products at 33⅓ per cent, and Class IV, All other property (namely real estate) at 40 per cent.

[4] For example see the Constitution of Massachusetts, Chapter I, Section 1, Art. iv, as interpreted in *Opinion of the Justices*, 220 *Massachusetts*, 613, 618-619.

trust the state legislature with discretion to tax different forms of property at different rates. They are afraid that political influences would dictate the classifications—that those property owners who are politically strong would be let off easily while others would be forced to bear more than their just share of the tax burden. The retention of the general property tax is a clear indication that large elements among the people do not trust their representatives to observe the canons of applied economics rather than the rules of practical politics in the framing of the tax laws.

**Why Uniformity in Taxation Is So Generally Insisted Upon.**

This popular attitude is not without reason. Economists define taxation as the levying of certain compulsory contributions upon individuals and corporations in order to provide public revenue. The assumed purpose of taxation is to provide revenue; its justification is the common benefit which comes from the expenditure of this revenue. That is taxation as the economist sees it. But tax laws are not enacted by economists; they are the handiwork of politicians. And the politician has a very simple philosophy of taxation. To him, taxation is a system of levying compulsory contributions in whatever way will produce the least outcry. From the politician's point of view the measure of taxation is not ability to pay but inability to resist. His favor leans to the element that can produce the votes. He tempers the wind, not to the shorn lamb, but to the ram with horns. Public sentiment, he says, demands a high tax on some things and a low tax on others. What he means, of course, is that one element of organized selfishness is more audible than another. That is why the most desirable tax, in the eyes of the average political representative, is a tax on the estates of deceased persons, for dead men have no votes.

**The Social Motive in Taxation.**

Economists tell us that the main purpose of taxation is to provide a public revenue. This, to be sure, was the original purpose. Nowadays, however, taxation has acquired an additional purpose which is to promote such social reforms as the lawmaking authorities may deem to be desirable. Swollen fortunes are felt to be a menace; so a progressive inheritance tax is levied to reduce them. Congress, a few years ago, attempted to lay a heavy excise on the products of child labor. This action was not dictated, of course, by a desire to obtain additional revenue; it was an attempt to secure by roundabout methods

the abolition of child labor. So with the tariff, which incidentally provides a revenue although its chief purpose is to protect American agriculture and industry. The taxes which a city levies on billboards, on transient traders, and on certain forms of amusement are not dictated so much by the need for revenue as by the desire to discourage the things that are taxed. Give a state legislature or a city council complete discretion as to what it will tax, with no restrictions as to uniformity or reasonableness, and taxation will become, sooner or later, a weapon of social regulation thinly disguised as a method of raising public revenue. "The power to tax," as Chief Justice Marshall once said, "involves the power to destroy." Marshall was right; the unfettered power to tax is the most far-reaching power that a government can possess. Having that power, it would hardly need any others.

**The Present Burden on Real Estate in Cities.**

It does not seem likely, therefore, that legislatures or city councils will be entrusted with much greater latitude in taxation than that which they now possess. This means, so far as the municipalities are concerned, that taxes on real estate and on tangible personal property will continue to provide most of the city's revenue. Some freedom to tax land and buildings at different rates may be forthcoming in time, but it is not yet in sight. Taxes on property will have to be supplemented, however, not only by taxes on incomes but by large revenues derived from other sources. The financial needs of the American city are increasing at a pace which makes it urgent that new sources of revenue be found. Real estate, in most American cities today, is so heavily burdened that the question arises: "How much longer can this one tax stand the strain?" In proportion to assessed value a tax-rate of say thirty dollars on the thousand may seem small—it is only three per cent—but it sometimes amounts to half the net income derived from the property.[1] It can hardly be denied that a tax which takes from one-third to

[1] "A detailed study of the net earnings of twenty typical business buildings in Boston during the five-year period from 1915 to 1920 shows that the average amount which is required to pay taxes levied by the city constitutes 39 per cent of the total net income from such property before deducting taxes. Considering the different properties individually, it has been found that the average proportion of net income absorbed annually by taxes varies from 27 per cent to 52 per cent of the total net income." City of Boston, *Final Report of the Committee on New Sources of Revenue* (Boston, 1921), p. 8.

one-half the net income from real estate must either operate to discourage investment in this form of property or must necessitate the maintenance of a high scale of rentals.

Most of This Burden Is Shifted.

Now it is true, of course, that the owner of real estate does not actually bear the whole burden of taxes laid upon his property. Insofar as the tax is levied upon buildings or other improvements he passes it in most cases to his tenants or customers as the case may be. The owner thus becomes a middleman who collects the taxes from somebody else. Taxes on factory buildings, railroad terminals, apartment houses, store buildings, and so on, do not usually stay where they are placed. They are shifted from one shoulder to another until they finally reach someone, usually the ultimate consumer, who cannot unload them on anyone else. Such taxes, therefore, trickle down for the most part into rents and prices so that in their final incidence they may rest where taxes on earned incomes, or on sales, or on individual expenditures would fall.

Why, Then, Should There Be Any Objection to It?

Why, then, should there be any serious objection to the practice of raising nearly all the city's revenue in this way? The objection is mainly psychological but none the less important. The landlord of a rented store or dwelling does not, or will not, fully appreciate the fact that taxes in a live and growing community come out of pockets other than his own; this is shown by the earnestness with which property owners so often oppose municipal enterprises that involve increased taxes. On the other hand, those who live in rented dwellings or apartments are for the most part under a delusion that they pay no taxes. That is why they are so often enthusiastic for new public outlays in spite of the fact that these things mean increased taxation. The chief objection to the practice of raising so large a proportion of our municipal revenue from taxes upon industrial, mercantile, and residential buildings, therefore, is its camouflaging of the truth. The truth, however unpalatable, is a far safer companion than an agreeable falsehood. It is not well for the people of any community to base their financial policy on a popular hallucination. It is not well that the vast majority of the city's voters, who live in rented homes, should be encouraged to believe that they can have more service and better service without an increased cost to themselves. In that delusion lies the greatest of all incentives to municipal waste and extravagance.

The English Plan of Taxing the Tenant.

From this point of view there is much to be said for the English plan of levying municipal taxes (or rates, as the English call them) upon the tenant rather than upon the owner of real estate. In the English boroughs all real estate is assessed on its rental value. The assessor (overseer) puts down on his roll the name of each tenant together with an estimate of what rent the store, factory, house, apartment, garage, or shop ought to bring. Even where the owner occupies the property, he is assessed on the estimated rental value. Then the annual tax rate is levied, so many shillings per pound, and the bills are sent to whoever occupied the property at the time the assessment was made.[1] In this way every occupant of property is sharply reminded of the fact that he is a taxpayer and that every increase in the city's expenditure comes directly home to him. His tax bill receives the same scrutiny as his grocery bill or his gas bill. To the majority of American tenants, on the other hand, the announcement of an increase in the tax rate, or of a general rise in assessed valuations, is of no more personal interest than are the published statistics of feldspar production or of exports to Bechuanaland. Yet everyone, whether owner or tenant, ought to be interested in the tax rate, for the only people who pay no taxes are those who have been laid away in the cemeteries.

Business and Occupational Taxes.

In order that the masses of the people in any large urban community may be brought to feel a direct interest in its financial affairs some broadening of the tax base is desirable. There are various ways of doing this. One is represented by the imposition of what are known as business or occupational taxes. Trade or business taxes have been extensively levied in European countries, especially in France and Germany. In Prussia the tax is laid at a progressive rate upon the ascertained annual earnings of all business enterprises including even those conducted by the city or state. In France the different forms of business are

[1] Certain general principles for the determination of rental value have been laid down by judicial decisions. In the case of rented dwellings and apartments, for example, the amount of annual rental actually being paid is *prima facie* evidence of rental value. In the case of some other properties the rental value is estimated by taking a percentage of the market value of the site plus a percentage of the cost of buildings thereon. Where the rental value is very small (under £10 per year in most boroughs) the municipal taxes (rates) may be "compounded," that is levied on the owner rather than on the tenant.

classified and taxed at variable rates upon their assumed profits.[1] In the United States many cities now supplement their income from the taxation of property by levying taxes on trades and professions. These taxes are levied either in proportion to the volume of business, or the number of employees, or the extent of the facilities used in the business,—for example, the number of rooms in the case of hotels. Considerable revenues are now derived in this way by St. Louis, Cincinnati, Los Angeles, and New Orleans.[2] Much opposition has been aroused by the imposition of these taxes, the chief allegation being that the levy tends to repress industry and to retard the expansion of business. On the other hand the business tax has some obvious advantages; it is easy to collect, difficult to evade, and can be made very productive.

**The Proposed Sales Tax.**

The suggestion has been made that a tax on all sales at the rate of say one per cent, and presumably to be paid by the customer, would be an improvement upon the business tax described in the preceding paragraph. The imposition of such a tax has been discussed as a means of raising additional revenues for the use of the national government, but a strong argument can be made for preserving this field of taxation to the municipalities. The cities are at the expense of providing all the local facilities which business requires—the police and fire protection, the improved streets, the regulation of traffic, and so forth. The cost of these things expands in proportion to the volume of business carried on. But the national government provides none of them and its continued invasion of new tax areas must seriously hamper the local authorities in their effort to utilize new sources of revenue. If a sales tax is levied, it should be for the benefit of the local governments.

**Its Reputed Merits.**

Whether it would be wise to impose a tax of this sort, however, is a matter upon which there is room for difference of opinion. The sales tax, it is admitted, would yield a large revenue.[3] The

[1] For example, Class A includes merchants and persons engaged in the practice of professions; Class B includes banks, department stores, transfer companies, etc.; Class C includes industrial establishments. The tax is not laid upon actual profits but upon estimates of what ought to be earned under ordinary circumstances.

[2] In Los Angeles, for example, the tax upon retail stores runs from $12 to $7500 per annum according to their gross annual volume of business.

[3] In 1921 it was estimated that a one per cent tax on *retail* sales alone

flow of revenue would be fairly constant and dependable; it would be paid directly, by the whole body of the people, in small amounts by each individual. What a citizen spends is a good indication of his ability to contribute to the cost of government—a better indication than is the amount of property that he owns. The sales tax would afford a more elastic source of public income than the property tax because the increasing value of property does not keep pace with the need for increased municipal revenues. The expenditures of a city for schools, for public improvements, or for new public services, have at best only an indirect relation to the value of property; their direct relation is the size, needs, activities, and expenditures of the population. These activities and expenditures are intimately related to the amount of business done in the community; they tend to expand when business is good and to contract when business is poor. The spending power of the people is a good test of what they can afford in the way of public services. For this reason it may fairly be argued that the tax system should be linked up with spending power as well as with property valuation. Municipal expenditures have been outrunning the growth of taxable property valuations; but they have probably not increased more rapidly than volume of business or sales.

It is further contended that the general sales tax would bring home to the average citizen, in a way that no other form of tax does, his unescapable share in the burdens of government. It would help dispel the notion that public extravagance affects only the well-to-do. The objection is raised that in some cases the seller would not be able to shift all of the tax, and that in other cases he would manage to shift more than the whole of it, and there is undoubtedly some force in this objection.[1] It is also contended that to tax all sales, of whatever sort, at a uniform rate would be inequitable in that it would levy alike upon transactions which are fundamentally unlike. The man who spends money for food and simple clothing ought not to be so heavily levied upon as the man who spends an equal amount for

Its Defects.

would yield the city of Boston between three and five million dollars per annum. *Final Report on New Sources of Revenue*, p. 25.

[1] The so-termed luxury taxes (e.g., on soft drinks, jewelry and certain articles of apparel) levied by the national government by the War Revenue Act of 1918 were made the basis of price-increases which in many instances exceeded the amount of the tax.

jewelry or for a motor car. It is mainly for this reason that labor organizations are opposed to the general sales tax. There is no great probability that this form of tax will be generally levied either by the national, the state, or the municipal governments of the United States unless a serious emergency arises.[1]

The Single Tax.

For many years the single tax, so-called, has had its earnest advocates in all countries. Briefly stated, the proposal is to place the entire burden of taxation upon land alone, that is, on the site-value of land, leaving buildings and personal property to go untaxed altogether. The argument is that the high site-value of land in cities has been created by the whole community, and not by the owner. This "unearned increment" of value should, therefore, be taken by the community by laying a heavy tax upon it. The claim is made that this tax could not be shifted by the owner to anyone else. The chief objection to the plan is the injustice of placing the entire tax burden upon one class of property owners, namely, owners of land. The single tax system would also be inelastic, and hence incapable of meeting the variable revenue-needs of the government. Administrative difficulties would also be involved in any attempt to make a clear differentiation between site-value and improvement-value. As for unearned increments it is not only land that acquires value through no effort on the part of its owner. Buildings and personal property may also gain enhanced value through the growth of a community. The single tax agitation has borne fruit, however, in calling attention to the desirability of departing from the traditional uniformity of the general property tax.[2]

The Taxing of Public Utility Companies.

It is taken for granted that the public utility companies which obtain privileges in the city's streets should contribute to the municipal revenues, but the methods of levying such contributions differ greatly from city to city. The older practice was

[1] In 1921, however, the legislature of Connecticut enacted a law providing for a levy amounting to one-tenth of one per cent on the gross sales of retail mercantile establishments, and of one-fortieth of one per cent on those of wholesale establishments, the minimum levy in any event to be five dollars per year.

[2] For a discussion of the whole subject the reader may be referred to E. R. A. Seligman, *Essays in Taxation* (9th edition, New York, 1921), Ch. iii; A. L. Young, *The Single Tax Movement in the United States* (Princeton, 1916); T. N. Carver, *Essays in Social Justice* (Cambridge, 1915), Ch. xi; M. H. Hunter, *Outlines of Public Finance* (New York, 1921), Ch. xvi; C. B. Fillebrown, *The A.B.C. of Taxation* (Boston, 1909), and the article

to tax the public service company's property as real estate, just as individual properties were taxed, but this plan proved unsatisfactory for two reasons. In the first place a public service corporation such as a street railway or telephone company often does business in several municipalities and owns property in all of them. This property cannot be fairly valued piecemeal, for each parcel of it is related in value to the others. To assess each item separately is like attempting to value an automobile by having different men set a figure upon the chassis, the wheels, the top, and the engine. Each would be worth very little apart from the machine as a whole. So with the plant of a public service corporation. Poles and wires, conduits, tracks, power houses, car barns, mains, and switchboards derive their chief value from the fact that they are integral parts of a going concern. In the second place the taxation of public-service real estate does not reach franchise values, or the intangible element in the company's wealth. Resort has, therefore, been had, in a few cases, to the practice of having the public utility assessed *ad valorem*, in other words, on its value as a unit of property. An assessing board, with state-wide jurisdiction, estimates what the company is worth as a unit of property, taking into account its earnings (gross and net), its franchises, its real estate, its capital and all other relevant factors. This estimate or *ad valorem* assessment becomes the basis of a percentage tax. The merit of this method depends, of course, upon the competence and impartiality of the assessing authorities.

**Other Methods of Taxing Public Utility Corporations.**

In New York there is an annual franchise tax based upon the company's capital stock. In Massachusetts a tax is levied on the excess value of the capital stock, at its fair market value, over the value of the company's property assessed locally. In some other states the public service companies are taxed on their plant or service,—so much per mile of track or per mile of wires. This plan is believed to be objectionable in that it tends to discourage the extension of service. Not infrequently the

by J. D. Miller on "The Single Tax and American Municipalities" printed in the *National Municipal Review*, Vol. III, pp. 737-741 (October, 1914). Attention should also be directed to the actual workings of the single tax in those cities of Western Canada which adopted the plan ten years or more ago but have now practically abandoned it. See A. B. Clark's article on "Recent Tax Developments in Western Canada," in *Proceedings of the National Tax Association* (1920), pp. 58-68.

companies are also required to perform some stipulated obligations, such as paving the street between the tracks (or even for a certain distance outside the tracks), or providing free telephones for city officials, or free light for city buildings. This, also, is a poor method of securing for the city a share in the company's earnings and leads to frequent controversies over petty matters.

Taxing Gross Earnings.

Extensive use has been made of gross earnings as a basis for the taxing of public utilities. The arrangement is simple; the company merely pays to the city each year a stated small percentage of its total income—say one-half of one per cent. Experts in taxation have been disposed to favor this plan because it is simple; it leaves room for no disagreements or controversies; it eliminates all mooted questions as to the proper valuation of plant or franchise; it involves no official supervision of the company's operations or expenditures, and it yields an income which grows in exact proportion to the increase of business.[1] But these important advantages of the gross earnings tax are offset, in part at least, by some serious defects. Gross earnings are not always a fair measure of taxation. One public service company may have large receipts and even larger expenses; another may take in a great deal less and yet make a large profit. The ability of a corporation to pay taxes is better determined by the excess of its receipts over expenditures than by the total of its receipts alone. Moreover, it is hardly fair to tax all public service corporations—street railway, lighting, telephone companies—at a uniform rate on their gross earnings, when these earnings are by no means related to the use which they make of the streets and other public property. Some classification can be made to meet this objection, but as a practical matter it is difficult to make the public see the justice of taxing one type of public utility at a different rate from the others.

[1] "Gross earnings are a definite fact, ascertained by a glance at the accounts, and incapable of argument or difference of opinion. The tax on gross earnings can be evaded only by perjury of the most obvious sort and is capable of easy detection. The gross earnings tax, therefore, has the greatest advantage of simplicity, certainty, and ease of administration. The amount of the tax fluctuates with the prosperity or adversity of the business, and is, therefore, just to all parties concerned." From the *Report of the Special Commission on Taxation of Corporations*, State of Connecticut (1913), quoted in M. H. Hunter, *Outlines of Public Finance* (New York, 1921), p. 347.

Taxing Net Earnings.

There remains the possibility of taxing net earnings. Net earnings, of course, are a better basis of assessment, for the value of a public utility depends very largely upon its profit-making power. Its value depends upon what it can earn for its owners. What the utility ought to contribute to the public treasury depends upon its excess of revenues over expenses—not upon its revenues alone. The net earnings tax, therefore, is sound in principle. But like many other things which are sound in principle it is difficult to apply. Net earnings are easy to define, but hard to ascertain. Public service corporations compute them on a wide-differing basis. Some make large allowances for depreciation before reckoning their net earnings; others do not. To avoid inequalities and evasion it becomes necessary, therefore, to prescribe what deductions are permissible in the ascertainment of net earnings—just as the federal government has done with respect to the determination of net income. The fact that the federal government has made uniform rules for the ascertainment of net earnings in the case of all taxable corporations is indeed a strong argument for using these net earnings as a basis of state and local taxation. It removes the old objection that every state or municipality must set up its own rules for the determination of net earnings or must enter into controversies with the public utilities on this issue. It is now possible to levy a tax on something definite, namely, the net earnings as reported to the federal government. There remains, however, one other serious objection to the net earnings tax. Basing the tax on net earnings will permit any public service corporation which has no net earnings to escape taxation altogether, and this irrespective of the fact that the absence of net earnings may be due to mismanagement or bad judgment on the part of the owners. This seems inequitable to the private owner who does not escape taxation on his real estate by reason of the fact that he is holding it without profit to himself.

The Incidence of a Tax on the Public Service Corporation.

In connection with the taxing of public service corporations, no matter what the basis of taxation, there is this to be remembered: The companies, as such, pay no taxes in any event; the taxes come from the pockets of those who buy gas, electric current, telephone service, or transportation. The company is merely a sub-collector of taxes for the public treasury. This, however, was not always the case. A generation ago, when

public utilities were not subject to strict regulation, it could be fairly assumed that taxes, or a part of them at least, would be paid out of the monopoly profits which the companies were making. But when public regulation succeeded in reducing the profits of public service companies to a reasonable return on investment (as is now the case in most American cities), all taxes and imposts necessarily become included in the overhead cost of providing the service. This means that they are now shifted to the public. The public must pay them, either in higher rates, or in poorer service, or both. It is only fair, therefore, that the utilities should bear no more than their proportionate share of the tax burden. They should pay at the rate that other business property pays.[1]

Special Assessments as a Source of Municipal Revenue.

A source from which some cities, both in Europe and America, derive considerable revenue is the levy of special assessments, or betterment taxes as they are sometimes called. This is a special charge imposed upon property adjacent to or in the vicinity of public improvement. The asserted justification of this levy is that certain public improvements, such as new parks, street widenings, and modern pavements, enhance the value of private property near by, hence the owners of such property should be saddled with the cost thereof, or at least with a portion of the cost. This apportionment of the cost may be on a frontage basis, or according to the assessed valuation of the properties benefited, or on a basis of their area. Sometimes the assessment is distributed in such way that property in close proximity to the improvement pays at a higher rate than property farther away. There is great variation also in the proportion of the cost assessed. Many cities, in the case of new street pavements, assess the entire cost upon abutting property, including even the expense of paving the street intersections; others levy not ex-

[1] It is sometimes argued that because taxes on public utilities are shifted to the public these utilities might properly be exempted from taxes altogether. "What is the sense of charging the public higher fares, in order that the public may pay less in taxes; it is merely taking money out of one pocket and putting it into the other"—so the argument runs. The flaw in this contention is that people do not pay fares or rates to public utilities in the same proportion that they pay taxes, even when the taxes percolate into rents and prices. To a certain extent the relieving of the utilities from taxation would confer a special benefit upon certain classes of the people, namely, those who make more than an average use of the gas, electric lighting, telephone, or street railway service, as the case may be.

ceeding fifty per cent of the cost.[1] State laws and city charters often restrict the action of the municipal authorities both as to the proportion of the cost that may be assessed, and as to the manner of assessing it.

Merits and Defects of This System.

While the principle of proportioning special assessments to benefit is fundamentally sound, the success of the plan as a means of raising revenue without injustice is largely a question of actual administration. The system of apportioning the assessments should be flexible enough to take account of the considerable differences in benefit which sometimes accrue from a public improvement to properties of the same area lying side by side. The assessments should never be determined until all the facts have been ascertained and all the interests given a hearing. The owner should have the opportunity of paying the assessment in a lump sum or in installments extending over a term of years, and the collection of the tax should be rigidly enforced. Some American cities have been very lax in collecting the amounts due, being too regardful of the political influence of the owners concerned. The city's policy, in any event, should be definite and consistent. The assessing authorities should not follow one method this year and another the next, for the market value of real estate is subjected to speculative influences whenever the policy of the public authorities remains open to frequent change. A stabilization of property values is of importance to the community as a whole and promotes its normal growth.

Other Forms of Municipal Taxation.

Varying amounts of income are obtained in both European and American cities by special taxes of one sort or another. In the cities of France there is a tax on doors and windows,—so much per annum for each. A few French municipalities, notably Paris, levy an *octroi* or tax on certain merchandise (farm produce, gasoline, etc.) coming into the city limits. Some German cities levy a sewerage tax on every building; many of them have special taxes on certain expenditures and on the consumption of specified luxuries. Some have "rent taxes" levied on occupancy in addition to the tax on the value of the real estate. Poll taxes (amounting usually to a dollar or two per adult male inhabitant) are levied in some cities of the United States, but

[1] For the details of this variation see the monograph on *Special Assessments* issued as a supplement to the *National Municipal Review*, Vol. XI, pp. 43-58 (February, 1922).

poll taxes have rarely been productive of much revenue because of the laxness which attends their collection. The cost of collecting a poll tax, when the individual does not pay it voluntarily, makes such compulsion unprofitable. Attempts to use deprivation of the suffrage as a means of enforcing the payment of poll taxes have proved unpopular and unsatisfactory.

**Municipal Revenues from Fees and Licenses.**

The municipal treasury receives a certain amount of income each year from fees, licenses, fines, and permits. The main purpose of these exactions is not to secure a revenue but to facilitate regulation. For this reason most of the fees and licenses are fixed at a relatively low rate. Licenses to sell intoxicating liquors were an exception; in some American cities they brought in an annual revenue of considerable proportions (as they still do abroad); but they no longer figure in the list of permits granted by city authorities in the United States. It is probable that American cities, without working any injustice, might derive a much larger aggregate from the levy of license fees on theatres, motion-picture houses, billiard and pool rooms, bowling alleys, public garages, taxicabs, cab stands, soda fountains, and pawnshops.[1] More should also be levied for the privilege of building private structures of any sort under the sidewalks, on advertising devices which project into the highways, and on billboards.[2]

**Motor Licenses as a Source of Municipal Income.**

Some municipal revenue ought to be derived from a levy upon motor vehicles which use the city streets, but in most cases the entire receipts from motor licenses are taken by the state and used for the building or maintenance of state highways. This is hardly a fair procedure, because large expenditures in connection with the upkeep of city pavements and the regulation of traffic have been made necessary by the increased use of motor vehicles. A few cities, including Chicago, Indianapolis, Richmond, and San Francisco levy a "wheel tax" on all motor vehicles

[1] The national government has shown, for example, that it is not difficult to raise very large sums of money by an excise or "war tax" on theatre tickets, soft drinks, and so forth. In Boston, for example, the municipal license fee for a theatre is $100 per annum, and the total receipts accruing to the municipal treasury from this source during 1920 were about $36,000. During the same year, however, the national government collected from these same places of amusement, through its 10 per cent tax on admissions, approximately $1,000,000, or about thirty times as much. *Final Report of the Commission on New Sources of Revenue* (Boston, 1921), p. 10.

[2] See the supplement to the *National Municipal Review* (May, 1923), entitled "Minor Highway Privileges as a Source of City Revenue."

which regularly use their streets, but there are some practical difficulties in the way of rigidly enforcing the payment of this tax. A better plan is to levy a tax of one or two cents per gallon on all gasoline sold in the state and to apportion a fair share of the proceeds among the cities.

Revenue from Utilities Owned and Operated by the City.

When a city owns and operates a water-supply system, or a lighting plant, or some other public utility, its gross annual income from that source may form a considerable item in the list of yearly revenues; but this gross income is in some cases nearly offset by fixed and operating expenses. Few American cities get any large net revenue from their municipalized utilities. The water-supply system is not and should not be operated with an eye chiefly to net profit, and the same is true of municipal abattoirs and markets. Lighting plants are in a somewhat different category. In some foreign cities they yield a substantial net amount to the municipal treasury each year; but whether those which are owned and operated by cities in this country really return a net profit is a question that cannot be answered in general terms. Cities keep their accounts differently; they do not make the same allowances for depreciation. Some allow for tax exemptions, while others do not. Even in a single city one rarely finds agreement on the question whether a municipal utility really yields a profit or a loss. At any rate, this item in the municipal revenues is relatively much less important in American cities than abroad.

Subventions from the State.

In many states, particularly in the Middle West and in the Western sections of the country, an annual grant or subsidy is distributed to the local authorities from the state treasury, usually as a contribution toward the expenses of local school administration. Sometimes, as has been already noted, the distribution is on a basis of enrolled pupils, and sometimes on a basis of population. In some cases the amounts are large and go a considerable way toward paying the cost of maintaining the city schools. Occasionally state contributions are made for other local purposes, as for the support of destitute soldiers or for poor relief in general. Some cities also possess endowment or trust funds, the incomes of which are used to maintain public libraries, parks, hospitals, or orphanages.

Methods of Collecting the City's Revenues.

The methods of collecting the revenue are substantially alike in the cities of all countries. In the case of property taxes, in-

come taxes, and business taxes the assessment is made and the tax bills are sent out at times fixed by law. A certain interval for the payment of these taxes to the city collector or other designated official is allowed. Sometimes the laws permit the payment to be made in two or more installments. Requests for a reduction or abatement of the taxes are heard by some established authority, usually by a board of revision but sometimes by the assessors. If no abatement is granted, and if the amounts are not paid on or before the date prescribed, it is the custom to add interest and costs. After a further lapse of time the city may sell any property on which taxes have not been paid. Such sales, however, are ordinarily subject to the owner's right of redemption within a stated period. In the case of fees the payment is sometimes made directly to the city collector's department, but in some cases to the department which grants the licenses, for example, to the buildings department. In American cities much revenue is lost through official remissness in collecting, promptly and rigidly, all the taxes and fees that ought to be collected. Political influences frequently dictate a measure of leniency that results in loss.

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# CHAPTER XLIV

## MUNICIPAL EXPENDITURES AND INDEBTEDNESS

Some Questions.

In the preceding chapter an attempt was made to indicate, in a general way, the various sources from which the city derives its revenue. What does the city do with this money? Who determines the manner in which it shall be spent? How is it appropriated? Are the cities equipped with proper safeguards to prevent extravagance, waste, and peculation? If not, what further safeguards ought to be provided?

Their Importance.

These are questions which ought to have careful consideration because the aggregate amount of money involved is very large. The gross annual expenditure of American cities (excluding the expenditure of funds obtained by borrowing) is well above a billion dollars. The aggregate has been increasing at a rapid pace, much more rapidly than population or property values. It may be claimed, perhaps, that a considerable part of the increase has been due to the shrinkage in the purchasing power of money—to the fact that the dollar does not go nearly so far today as it did ten years ago. This is quite true, of course, but it does not explain the entire increase or even the greater part of it. After all due allowance is made for increases in population, and decreases in the value of the dollar, it will still be found that municipal expenditures are mounting at a progressive rate.[1]

How Appropriations Are Made.

As a general rule all municipal revenues, however collected, are

[1] Statistics of expenditures in American cities of over 30,000 population are issued regularly by the United States Bureau of the Census. In these statistical publications a distinction is made between (a) expenses, (b) interest, and (c) outlays. The first includes all expenditures of a current nature; the second all interest charges on debt; while the third comprises all expenditures for "land and other properties and public improvements more or less permanent in character." *Financial Statistics of Cities* (Washington, 1922), p. 17. The distinction between an expense and an outlay, on the basis of "more or less" permanence, is obviously not easy to make in every case; but generally speaking all expenditures defrayed by the issue of bonds are designated as "outlays."

turned into the city treasury and may not thereafter be paid out unless authorized by an appropriation. In the cities of all European countries the power to appropriate funds is vested with the city council, subject in some instances to a measure of control by the higher authorities. In the United States the same is true in a general way. Under the mayor-and-council type of government the council is the appropriating authority although the initiative in some cities belongs exclusively to the mayor, and the council's discretion is in a few cases limited to reducing the appropriations recommended by him.[1] In commission-governed cities the appropriations are initiated, granted, and expended by the commission—an arrangement which involves a departure from the time-hallowed American tradition that the appropriating and the spending power should not rest in the same hands. Where the city-manager (or commission-manager) plan has been established the appropriations are recommended by the manager and voted by the council or commission. In a few cities the work of preparing the budget for submission to the council is in the hands of one of its own committees.

The Municipal Budget in France.

In French cities the municipal budget is prepared by the *maire* who submits it to the council, defending it in person before that body, of which he is a regular member. The council has full discretion to increase or reduce any item, and the mayor has no veto over such action; but when the council has completed its work the budget goes to the prefect and that official may make changes in it.[2] The latter has authority to increase or reduce any item in that portion of the budget which is devoted to estimated receipts, but in the case of expenditures he is virtually restricted to making reductions.

In Germany.

In German cities the budget is prepared by the administrative board (*Magistrat*), or, where no such board exists, by the burgomaster's chief subordinates. After being made public for a period of eight days it is submitted to the elective city council which has power to amend, strike out, or insert at will; but its action does not become effective unless the administrative board concurs. In case of prolonged disagreement between the two the issue is referred to

[1] In New York City, as is elsewhere explained, the initiative in budget matters belongs to a Board of Estimate and Apportionment, of which the mayor is the presiding member.

[2] See Vol. I, pp. 158-159.

the state authorities for settlement. The approval of the higher authorities is required in any event if the budget necessitates the imposition of any new taxes.[1] In the English boroughs the budget is prepared, in consultation with the heads of departments, by the finance committee of the council. It is then laid before the whole council. The council, in committee of the whole, goes over the estimates item by item; the chairman of each standing committee defends the amount asked for by his department, and the higher permanent officials are called before the council whenever further information is needed. There are no public hearings in the American sense; but if any ratepayer desires to be heard by the council, his request is invariably granted. The council has full power to strike out, insert, increase, or decrease any item, and this discretion it does not hesitate to use.

In England.

In the United States the budget procedure differs from city to city, but the general lines are not widely dissimilar. The first step in the preparation of a municipal budget is to call upon the heads of the various city departments for their estimates of expenditure. In order to facilitate the making of these estimates (which are for the ensuing fiscal year) the comptroller, or auditor, or other appropriate official sends to each department a standard form upon which are set down its actual expenditures during the fiscal year preceding, or, sometimes, for two or three years preceding. The various heads of departments, in consultation with their chief subordinates, make up their new estimates and return the sheets to the mayor, to the commission, or to the city manager, as the case may be. Meanwhile the comptroller, or auditor, or other head of the financial department prepares a forecast of probable revenues from sources other than taxation (from fees, earnings of the water department, subventions from the state, and so forth). He also figures out how much will have to be paid for interest charges on the city's indebtedness, for contributions to sinking funds, and for the redemption of such serial bonds as may fall due in the course of the fiscal year. Similarly a reckoning is made of any other uncontrollable expenditures which may be provided for by law, such as pensions to former city employees, or soldiers' relief.

Municipal Budget Procedure in the United States.

1. Preparing the Estimates for the Ensuing Fiscal Year.

[1] For further details, see the article on "The German Municipal Budget" by Karl F. Geiser, in *Annals of the American Academy of Political and Social Science* (November, 1915).

2. Consolidating the Estimates.

When these estimate-sheets come in they are recopied, arranged in orderly fashion and laid before the mayor, the board of estimate, the city commission, the city manager, or the finance committee of the city council as the charter may provide. Some tentative calculations are then made in order to reckon what the city tax rate would be if the appropriations were voted without reducing the estimates. It invariably appears, of course, that

3. Executive Consideration of the Estimates.

the several department-heads have asked for more than can be given them without a marked increase in the rate of taxation, hence it becomes necessary for the mayor, or the city manager, or other reviewing authority to go through the figures and make considerable reductions. This may be done item by item, or by making a horizontal cut, in other words by taking say ten or fifteen per cent from the total asked for by each department. An item-by-item scrutiny is the businesslike way of doing the thing, but it requires so much time and labor that the mayor, in many cases, merely prunes the totals uniformly, leaving the head of each department to distribute the reductions among his estimates as best he can. At any rate, when the process of trimming the estimates has been completed, the whole list, in the form of an appropriation order or tentative budget, is submitted to the city council (board of aldermen), or to the city commission, for its approval.

4. The Budget Before the City Council.

When the city council receives the tentative budget it usually provides for hearings thereon. These hearings may be held by the whole council or by one of its committees. Heads of departments are often summoned to explain their figures; representatives of civic organizations and even private citizens appear and are heard in relation to various proposed appropriations. This may consume several days, or even weeks. When everybody has been heard the council by majority vote makes such changes as it thinks desirable and the budget is then voted as a whole. Subject to the approval of the mayor (in those cities where the mayor's approval is needed) it then becomes effective, and the head of each department is notified of the amounts which have been appropriated for him to spend.[1]

[1] In New York City the Board of Estimate and Apportionment, when it receives the estimates from the various departments, refers them to a corps of examiners for study and report. The New York Board of Aldermen (city council), when the proposed budget is laid before it, may reduce or eliminate any item except those fixed by law but may not increase any

Temporary Appropriations.

This work of getting the estimates, putting them into uniform shape, reviewing them, holding public hearings, and debating them in the council necessarily takes a good deal of time. It may cover two or three months. Meanwhile the departments must have money to carry on their work, to pay their employees, and to purchase supplies. In order to provide them with temporary appropriations while the budget is being considered, it is the prevailing custom to vote for the temporary use of each department a sum equal to one-twelfth of the money spent by it during the fiscal year immediately preceding. Then, if the new budget is not passed within a month, another one-twelfth is granted. These temporary appropriations are, of course, deducted from the amounts voted in the budget when the latter goes into effect.[1]

The Two Types of Municipal Budget:

1. The Lump-Sum Budget.

There are two types of municipal budget, commonly known as the lump-sum and segregated budgets. Where the first of these two plans is in use the appropriations are made to each department in totals. The head of the department may then apportion the total amount for salaries, wages, materials, sup-

appropriation or insert any new item. If the aldermen vote to reduce or eliminate, moreover, their action is subject to veto by the mayor and this veto can only be overridden by a two-thirds vote. In Chicago the estimates are sent by the various departments to the comptroller who submits them, without change, to the finance committee of the city council. This committee, after a study and revision of the items, lays them in the form of a budget before the whole council. Subject to the mayor's veto the council can increase or diminish, strike out or insert, any item at will. In Boston the estimates are sent to the budget commissioner, who arranges them in form for the mayor's scrutiny. The mayor, after revising the items (he usually contents himself with a horizontal reduction), submits the whole to the city council, which is restricted by the city charter to the making of reductions or eliminations. In Buffalo the appropriations are made by a majority vote of the city commission. In Cleveland, under the new charter, the budget will be prepared by the city manager and laid before the city council, which will have full power to increase or decrease without risk of veto by any other authority.

[1] The plan of voting a uniform one-twelfth to every department is a crude one at best and sometimes leads to difficulties. For example, if the fiscal year begins on January 1, the park department does not usually need one-twelfth of its appropriation during the ensuing month; its activities are slack at that time of the year. But the street department (or whatever department is in charge of removing snow from the streets) may have very heavy expenditures during this month in northern cities. The one-twelfth arrangement is typical of the short-cut methods which are still widely used in American cities because other methods would involve time and study.

plies, and other expenses as he thinks best. So long as he does not spend more than the entire sum allotted to him he may increase at his discretion the amounts expended in one branch of his work and decrease the amounts spent in another. The merit of this plan is its flexibility; it allows the head of a department to use his own judgment in spending a little more than he anticipated at one point by saving some money at another. But it has the defect of relieving the head of a department from the necessity of carefully planning his expenditures in advance. The result is that he may all-too-easily expend his entire appropriation before the year is out. No department head can be sure of avoiding a deficit unless he plans and apportions his outlays with the greatest care—with more care, in fact, than the average city official gives to the task.

2. The Segregated Budget.

Under the segregated budget plan, on the other hand, the appropriations are voted in detail—a specific sum being appropriated for every item in the estimates submitted by the department. A definite amount is allotted for the salary of each official, and for the pay of each employee, as well as for the purchase of such material and supplies as are specified in detail. This means, of course, that in a large city the segregated budget becomes a formidable affair, containing several thousand items.[1] The outstanding merit of this method is that it compels the careful planning of all city expenditures and holds the head of every department to strict accuracy. It is true, of course, that no official, however farsighted, can exactly foresee all the detailed expenditures which will be necessary in the course of the year. Even though he has last year's list of expenses before him, he will overlook some things. Unforeseen contingencies will arise, and accidents will happen in the best-managed departments. To some extent these can be provided for by appropriating to each department a certain extra sum for use in emergencies or by leaving a reserve in the city treasury unappropriated. In the latter case, if a department finds that it must have more money, it can obtain a supplementary appropriation or a transfer from this reserve fund when the occasion arises.

Transfers of Appropriations.

It is the theory of the segregated budget system that the various heads of departments will make their estimates with such scrupulous care and good judgment that unforeseen con-

[1] The New York City budget for 1921, in printed form, covered 338 pages.

tingencies will rarely arise and that few transfers from the reserve fund will be necessary. But in practice there is a poor approach to this ideal. The heads and deputy heads of departments, being for the most part political appointees, are rarely able to make their estimates accurate. They omit to provide for needs that are almost sure to arise. They trust that good fortune will take care of this or that, and are disappointed. It is astonishing how many emergencies and unforeseen contingencies arise in the work of American municipal departments. Most of them would not be "unforeseen" in any private business. The consequence is that requests for transfers are made with great frequency and the reserve fund is usually exhausted before the fiscal year comes to an end.[1] This fund may be replenished, of course, by transferring to it the unexpended balances of any departments which happen to have such balances, but money does not often turn out to be available in this way. With the appropriations and reserve fund exhausted before the end of the fiscal year there is nothing to do but leave bills unpaid until the new fiscal year begins. In this way a deficit is frequently shifted from one year to the next, and from one administration to its successor, gaining in size as it goes. Eventually, if the laws and public opinion permit, it is liquidated by making a loan on the city's credit, in other words by passing the deficit to a future generation of taxpayers.[2]

The Process of Paying the Bills.

The procedure by which the city's money is actually spent may well have a word of explanation. Payrolls and bills for

[1] The usual practice is to provide that requests for transfers shall be submitted by the head of the department to the mayor, the city manager, the comptroller, the commission, or the city council: the practice varies in different cities. In most cases it is easier to secure the transfer of money from one item to another within the department than to procure an allotment from the reserve fund, or from the general fund.

[2] Various attempts have been made to prevent heads of municipal departments from incurring more expenditures than the amounts appropriated to them. In the charter of Boston, for example, one finds the following provision, which certainly seems stringent enough: "No official of the said city, except in case of extreme emergency involving the health or safety of the people or their property, shall expend intentionally in any fiscal year any sum in excess of the appropriations duly made in accordance with law, nor involve the city in any contract for the future payment of money in excess of such appropriation. Any official who shall violate the provisions of this section shall be punished by imprisonment for not more than one year, or by a fine of not more than $1000, or both." *Section 43.* Even penal liability, however, has not been effective in preventing departmental deficits.

supplies or materials are usually approved, first of all, by the heads of the departments and sent to the comptroller or auditor. This official, if he finds that there is an appropriation available from which to pay the bills, certifies them to the city treasurer who issues his checks in payment. In some cities the payrolls must be submitted to the civil service commission before they are sent to the comptroller. In the payment of the city's bills, accordingly, there are three officials concerned, and each has a different responsibility. The head of the department vouches that the service has been rendered or the materials received; the comptroller or auditor certifies that there is a balance of appropriation sufficient to cover the payment; and the treasurer's responsibility is to make payment when the bills are properly certified.

Most City Expenditures Are Uncontrollable.

In the annual expenditures of a city a considerable fraction of the total is uncontrollable, that is, the municipal authorities have no say in determining it. The interest on the city debt, the contributions to sinking funds, and the repayment of serial bonds at maturity—these items cannot be reduced. They are a legacy from previous administrations. In many cities, moreover, provision must be made for payments into the state or county treasury, or both; and various other payments are fixed each year by the higher authorities. Very often, moreover, the statutes provide that a certain minimum shall be appropriated for school purposes, to be spent by the school board. The result of all this is that at least one-half, and sometimes even two-thirds, of a city's annual expenditures may be uncontrollable so far as the mayor, city manager, or council are concerned. Theoretically the remaining items in the budget may be increased or decreased at the discretion of the city authorities, but as a practical matter their discretion in the way of reducing expenses does not extend very far. Cities must have police and fire protection; the streets must be kept lighted and in repair; sanitation must be provided for, and the public health safeguarded. It is not possible to cut down on any of these functions below a certain point. Even with the most ruthless economy, therefore, it is doubtful whether the authorities of any American city could cut the annual expenditures by as much as ten or fifteen per cent without seriously impairing the service rendered by the municipality to its citizens.

The Growth of Municipal Expenditures in America.

During the first half of the nineteenth century, when American cities were small and their activities few, their expenditures were exceedingly moderate compared with those of the present day. Since the Civil War, however, every decade has seen these expenditures mount with increasing rapidity; there has been no recession anywhere. In 1902 the cities of over 30,000 population reported a combined expenditure of about $334,000,000; in 1910 this total had risen to $557,000,000; and in 1921 to over $1,000,000,000. Nor do these figures of annual "governmental-cost payments" tell the whole story.[1] The combined annual "outlays," or expenditures for permanent improvements (chiefly financed by borrowing), amounted to $128,000,000 in 1902; they had risen to $266,000,000 in 1910, and totalled $317,000,000 in 1921. It will be seen, therefore, that city expenditures practically doubled during the World War decade, while borrowings increased by only 20 per cent. Per capita expenses were $16.37 in 1902; $20.53 in 1910; and $38.04 in 1921. Municipal expenditures, accordingly, are increasing much more rapidly than city population.[2]

The Chief Items in the List of Annual Expenditures.

In this average expenditure of about $38 per head what are the principal items? The largest is public education. The city school system requires, on the average, about ten dollars per capita annually. Next comes interest on the municipal debt, which takes about five dollars per head of population; the police and street departments take about three dollars each; the fire department costs on the average about two dollars and a half, and sanitation a like amount per capita. Nearly three dollars per head represents the expenditures on city-owned public utilities.[3] The average municipal expenditure for charities, hospitals, and corrections is about two dollars per head; general government (i.e., salaries of the mayor, councilmen, financial officers, legal department, and so forth) costs about three dollars. Public recreation is just under a dollar per head, and only thirty-seven cents per capita was spent in 1921 by all American cities for the maintenance of public libraries. The care of the public

[1] See *above*, p. 471, *footnote*.

[2] The per capita figure for "outlays" was $6.13 in 1902; $10.21 in 1910; and $10.99 in 1921. Apparently there has been an extension of the "pay-as-you-go" policy during the past dozen years.

[3] These utilities, however, usually bring in as much (and sometimes more) in revenue.

health is also a relatively small item, about seventy cents per capita in all the cities when the figures are averaged out. There remains then, from the $38 per capita, about a dollar per head for miscellaneous expenses. It should be made clear, of course, that these per capita statistics are *averages* for all American cities of over 30,000 population. In the great centers the figures are much above these averages; in the smaller places they are correspondingly below.[1]

**Per Capita Comparisons of Municipal Expenses.**

From time to time one encounters some unofficial compilation of data which purports to disclose, in a graphic way, that some public function is being more economically or more extravagantly administered in one city than other cities of its class. These compilations and charts are of very little value. The apportionment of functions among departments is not the same in all cities and the cost of maintaining any individual department depends, of course, on the amount of work entrusted to it. In some cities, for example, the playgrounds are maintained by the park or recreation department; in others they are under the jurisdiction of the school board. This fact alone vitiates, in some degree, comparisons that may be made between the relative costs of education and of recreation in cities which are differently organized. In some cities, again, the cost of paving the streets, and occasionally also the expense of repairing them, is paid for by the levy of special assessments and does not figure in the annual expenditures. The county authorities, in some parts of the United States, are responsible for various correctional activities which in other parts of the country are assumed and paid for by the city. Very often, moreover, there are large items of expenditure which are a burden upon the taxpayers of the city but which do not regularly appear in the municipal budget at all, being carried in the budget of a school district or a park district or some other incorporated area.[2] It is unwise to place any dependence upon these charts and per capita tables which make no allowance for the great variation in municipal organization, in the apportionment of functions, and in methods of ac-

[1] For the figures in detail see the *Financial Statistics of Cities* issued by the United States Bureau of the Census in 1922, especially pp. 96 *ff.*

[2] In Chicago, for example, one must add together the expenditures of the city corporation, the school district, the various park districts, together with a large part of the expenditures of Cook County and of the Chicago Sanitary District.

count-keeping. To prepare an accurate comparison of what is being spent in different cities for the same specific purposes demands a knowledge of the local conditions in each case.

The Difficulty of Finding Proper Bases for Comparing the Expenditures of Cities.

When the financial officers of a city desire to prove to the people that the municipality is being economically governed, there is a natural temptation to compile and publish some contrasts with figures drawn from the annual reports of neighboring communities. Things are accordingly reckoned out in terms of cost per mile of streets, or per thousand dollars of assessed valuation, or per head of population—on whichever basis happens to be most favorable to the officials making the comparison. Boston, for example, has a higher per capita expenditure for police than any other large city in the country. But the expenditure per thousand dollars of assessed valuation is lower than that of any other large city—so this is the basis which Bostonians take to be the proper one. The fact is that tabloid statistics, on whatever basis compiled, ought to be used with great caution. Expenditures for schools, to take a good example, do not necessarily depend upon the size of the population in a city, or its area, or its wealth, or its street mileage. Such expenditures depend upon the number of children seeking admission to the public schools and the efficiency of the education given to them. In two communities of the same size the number of children attending the *public* schools may be very different. Statistics of expenditure do not of themselves prove anything. They are merely data or evidence to be scrutinized, weighed, analyzed, and balanced like circumstantial evidence of any other sort. If they do not stand the test of cross-examination, they should be thrown out of court.[1]

The Need for Uniform Municipal Accounting

Comparisons of the cost of service in different cities has been rendered somewhat less difficult in recent years by the legal requirement that municipal accounts shall be kept in a uniform way. About three fifths of the states now exercise a varying degree of supervision over municipal accounting and in some of them this supervision is very strict. The accounting system of a

[1] The American people, as a people, have a reverence for statistics. Somebody announces, with an array of ciphers and charts, that the intelligence of the whole population averages that of an eleven-year-old child, and thousands of intelligent people accept the assertion as gospel. Somebody else declares, after juggling miscellaneous figures, that the school system of Montana is the most economical and efficient of any state in the Union. Everybody in Montana believes it, and some outsiders as well.

city may be defined as the procedure by which all its financial transactions are recorded and audited. The purpose of accounting is not only to ensure honesty on the part of the financial officers but to facilitate the intelligent conduct of the city's business. The system of accounting, if true to its purpose, may differ somewhat from city to city because of a difference in organization and functions, but there is no good reason why the variation from uniformity should be very great. Especially is it desirable that the unit-costs of various forms of service should be computed on the same basis, for otherwise a city cannot hope to profit from the experience of its neighbors.[1] This is a field in which the American municipality has still a good deal to learn from the methods of private business.

Centralized Purchasing.

Many American cities, especially those operating under the city manager plan, have centralized the purchasing of all their supplies. This action has not only served the interests of economy, but it has enabled the city to standardize the supplies used by its different departments and thus to make sure that the municipality gets what it pays for. The practice of letting each department buy where it pleases, and usually in small quantities, has been responsible for a great deal of waste.

The Financial Reports of Cities.

At the end of each fiscal year the municipal authorities publish a volume showing the financial transactions—the receipts, expenditures, borrowings, repayments, balances, and so forth. These reports ought to be of educational value, but they usually are not. For one thing they rarely leave the printer's hands for a year or more after the books have been closed. By that time they have an antiquarian interest only. For another thing they are rarely well put together or intelligible to the ordinary reader. Long columns of figures are included—mere transcripts from the books of the auditor or the treasurer—without elucidation or comment. No one reads these annual reports, and no one would learn much from them if he did. They look portentous on the library shelves but within their covers is nothing but a dreary

[1] See the chapter on "Judging the Efficiency of Government" in W. P. Capes, *The Modern City and Its Government* (New York, 1922). Further information on the general subject may be found in D. C. Eggleston, *Municipal Accounting* (New York, 1914) and in A. E. Buck, *Budget Making* (New York, 1921). There is also some good material in the *Survey of Jamestown, N. Y.*, prepared in 1917 by the New York Bureau of Municipal Research (pp. 339-354).

waste of debits and credits. It is fair to say, however, that many cities have greatly improved the intelligibility of their annual reports during the past ten years. They have eliminated the long lists of miscellaneous items, and they have made their summaries readable. But this is a field in which much still remains to be done. It is a safe statement that more than half the money now appropriated for the publication of American municipal reports is sheer waste, of no value either to officials or citizens, and profiting nobody but the holder of the printing contract.

Municipal Borrowing: In Europe.

Cities in all countries have power to borrow money, but subject always to certain restrictions. In France, by the Municipal Code of 1884 (as amended in 1902) the city councils are permitted to authorize borrowing on the credit of the municipality provided they keep within certain bounds. Beyond this point the consent of the higher authorities is necessary in the case of every loan. In German cities all municipal loans, irrespective of their size or purpose, require the approval of a supervisory authority. In England the same is substantially true; the borrowing powers of the boroughs are exercised under the supervision of the national authorities. Various general statutes (such as the Public Health Acts, or the Education Acts, or the Housing and Town Planning Act) grant borrowing powers to the municipality, and sometimes fix maximum periods within which loans must be repaid; but they almost invariably provide that the exercise of such borrowing powers shall be subject to the control of the appropriate governmental department, such as the Ministry of Health or the Board of Education.

In the United States.

In the United States a different policy has been pursued. Until about fifty years ago the cities were virtually permitted to borrow at will, without any legal or administrative restrictions. The result was that many of them ran heavily into debt, particularly those which adopted the policy of granting bonuses to turnpikes, canals, and railroads. In some cases these debts exceeded the total value of all the assessed property within the municipality. Accordingly, a movement for restricting the borrowing powers of the cities was begun in the seventies and made rapid headway during the next twenty-five years. Many states adopted constitutional provisions which prohibited the granting of bonuses, or the lending of the city's credit to private enter-

prises. In other states the constitution was amended to limit the total amount of indebtedness that cities might incur. Today there are about thirty states which impose such a limit by the terms of their constitution; in several others a municipal debt limit has been established by law.[1]

Municipal Debt Limits.

The most common method of fixing a municipal debt limit in the United States is to provide that the total indebtedness of any city shall not exceed a certain percentage of the assessed valuation of all taxable property within the municipality. The amount varies all the way from one to ten per cent, the most common ratio being five per cent.[2] In a few cases the limit is not fixed in terms of assessed valuation but in terms of municipal revenue; in California, for example, the total debt of a city must not exceed the city's income for the current year. This limit may be exceeded, however, by a two-thirds vote of the qualified electors. The provision that all proposals to borrow money, beyond a certain point, must be submitted to the voters of the city is one that exists in many of the states. Above the constitutional maximum, however, it is not usual to permit municipal borrowing, even though the voters approve, but there are some exceptions to this rule.

Debts Outside the Limit.

In reckoning the aggregate municipal indebtedness it is not customary to include loans of a temporary character, such as loans made in anticipation of taxes. In some states it is also provided that debts incurred for reproductive purposes, so-called, shall not be reckoned as coming within the debt limit, in other words, loans such as those incurred for the acquisition and extension of municipal waterworks or lighting plants. This provision is made on the theory that such loans are not properly to be rated as debts but as investments; they are assumed to be self-supporting and to impose no burden upon the taxpayers.

Restrictions on Loans Within the Debt Limit.

So long as an American city keeps within the debt limit it is usually at liberty to borrow as much money as it pleases. In

[1] For the details see Massachusetts Constitutional Convention *Bulletin, No. 14*, entitled "Constitutional Restrictions on Municipal Indebtedness" (Boston, 1918).

[2] One objection to this method of fixing the debt limit is the temptation that it lends to artificial inflations in the assessed value of property. Assessors are urged to raise the figures all along the line—not that more revenue may be obtained, but that more indebtedness may be legally incurred. By lowering the tax rate in exact proportion to the increased assessment the total revenue can be left undisturbed.

some states, however, there are various constitutional and statutory restrictions as to the purposes for which debts may be incurred, as to the term and character of the bonds, as to methods of repayment, and occasionally as to the maximum rate of interest that may be paid.[1] In others there are no such limitations. The legislature of Indiana in 1921 passed a law relating to the control of municipal indebtedness which savors rather strongly of the English procedure. According to the provisions of this law if any ten taxpayers believe that a proposed municipal bond issue, exceeding five thousand dollars, even though it be within the debt limit, is unnecessary or excessive, they may file a petition with the state board of tax commissioners and have the matter reviewed. The decision of the state board "upon the issuance of said obligations, and the amounts thereof, shall be final."[2] This procedure, if it should prove workable and gain adoption in other states, will provide American cities with a flexible system of administrative supervision over bond issues somewhat akin to that which has long existed in Europe.

**Inelasticity of the Present System.**

There is ground for the expression of a hope that some such plan of administrative control over municipal borrowing may be worked out in the United States. The chief defect of the existing system is its inelasticity. A rigid limit is fixed in the constitution or the laws. The cities are left free to borrow until this limit is reached and they often abuse their freedom. Then, when they reach the maximum they find themselves with no leeway to meet an emergency. So they bestir themselves to have the state constitution amended or the general laws changed for their own benefit. If the constitution cannot easily be changed (as is usually the case), various devices are used for evading the debt limit that it imposes. A method of evasion, much utilized by legislatures, is that of creating a new municipal corporation, which overlaps the territory of one already existing. If, for example, a city has incurred indebtedness up to the limit fixed by the constitution and desires to borrow money with which to build a new high school, or to provide a new method of sewage

[1] A good example may be found in the Massachusetts Municipal Finance Act of 1913. Massachusetts, *Acts and Resolves*, 1913, Chap. 719. See also the various amendments to this statute during the past ten years.

[2] For the text of the law, revised to January 1, 1922, see the *Report of the* [*Indiana*] *State Board of Tax Commissioners*, 1922, especially Section 201.

disposal, the legislature may create a high school district or a sanitary district having boundaries almost identical with those of the city. These new districts are then given borrowing powers, and taxing powers, wholly apart from those possessed by the municipality. Chicago affords the classic example of such overlapping municipal corporations—a city corporation, a county, a school district, a sanitary district, and several park districts, all in the same urban area, but each endowed with power to borrow up to the five-per-cent-of-assessed-valuation limit fixed by the constitution of Illinois.

The Terminology of Municipal Indebtedness.

How large is the present indebtedness of American cities? Before attempting to answer that question it is essential to make clear the sense in which the term "indebtedness" is used. By the *gross* debt of a city we mean its entire outstanding obligations, whether funded or floating. By the *net* debt we mean this total minus whatever sums are held in the sinking funds for the payment of loans when they mature.[1] The *funded* indebtedness is that part of the entire debt which is evidenced by formal obligations that have a number of years to run, and for the amortization of which no assets other than sinking funds are specifically pledged. These formal obligations are variously known as corporation stock, bonds, certificates, serial notes, and municipal debentures. The *floating* indebtedness, on the other hand, includes that part (usually a relatively small part) of the city's debt which has not been funded. It includes loans in anticipation of taxes, bank overdrafts, short-term notes, and unpaid bills. Again, a distinction must be made between the indebtedness which has been incurred by the city proper and that which has been contracted by school districts, poor districts, park districts, or sanitary districts which overlap the municipal area. The indebtedness of the city corporation does not represent, in all cases, the real burden upon the citizens.[2] In speaking of municipal debts, therefore, it is desirable that care be taken to specify the exact basis upon which the figures have been compiled. Otherwise they may be entirely misleading.

The Net Debts of American Cities.

The net debt (funded and floating) of all American cities

[1] For example, the *gross* debt of New York City in 1921 was $1,707,281,612: the *net* debt was $1,036,091,787. United States Bureau of the Census, *Financial Statistics of Cities*, 1921 (Washington, 1922), pp. 124-125.

[2] Chicago's gross debt in 1921 was $152,446,241. Of this amount only $96,226,821 had been incurred by the city corporation.

having populations exceeding 30,000 (reckoning not only the debts of the cities proper but of overlapping incorporated areas) was about two and a half billion dollars in 1921—which is more than $85 per capita. Not a few cities—including New York, Boston, Pittsburgh, Cincinnati, New Orleans, and Omaha have net debts exceeding $100 per head of population. Municipal indebtedness has undergone a considerable increase during the past decade; but debts have not mounted, on the whole, so rapidly as municipal expenditures. Comparisons of the relative indebtedness of different cities do not serve a very useful purpose because one city may have incurred a large part of its debt in the purchase of reproductive undertakings while another has no such assets to offset its liabilities.[1] The question is not: "How much does a city owe?" but "What has it to show for its indebtedness?"

Methods of Borrowing:

When a municipality borrows money by the issue of bonds it may do so in either of two ways. It may sell a designated number of bonds all of which mature on the same date, ten, twenty, or thirty years hence, as the case may be. In this case the repayment of the principal is ordinarily secured by making annual contributions to a sinking fund which, with the accumulations from its investment, will be sufficient to amortize the principal when the bonds fall due. Bonds thus secured are known as sinking fund bonds. Or the city may, on the other hand, issue a series of bonds in such ways that one or more bonds become payable in each successive year, the last maturing in ten, twenty or thirty years from the date of issue. No sinking fund is needed when the serial plan is used; each year a sufficient sum of money is raised by taxation to pay off the bond or bonds which fall due in that year. Bonds of this sort are known as serial bonds. It is not necessary that a uniform repayment be made each year. The serials may be so dated as to maturity that more will fall due in the later than in the earlier years.[2]

Sinking Fund *v.* Serial Bonds.

Superiority of the Latter Plan.

From the standpoint of economy there is no difference between these two plans of borrowing. Given the same assumptions as

[1] A comparative statement of the bonded debt of thirty-six cities, as of January 1, 1923, is printed in the *National Municipal Review*, Vol. XII, p. 245 (May, 1923).

[2] For a discussion of the subject see Massachusetts Constitutional Convention *Bulletin No. 21* on "Methods of Borrowing—Sinking Funds *v.* Serial Bonds" (Boston, 1918), and the references thereto appended.

to rates of interest and accumulation, the aggregate cost of the loan will be the same under either plan. But in actual practice the serial plan usually proves to be somewhat the more economical because the money paid into the sinking funds cannot always be invested immediately and some loss of interest results. The serial plan has the additional advantage of being safer. It does not require the accumulation and investment of large sinking funds. These funds have been carefully handled in American cities, as a rule, but the danger of peculation or unwise investment on the part of those who have the custody of the funds is always to be reckoned with. These custodians, or sinking-fund trustees, are inevitably under pressure to invest the money in one form of security rather than in another, or to deposit some of it in banks which enjoy the favor of high-placed men at the city hall. The serial plan also lends itself to greater flexibility in the distribution of the burden; it enables the peak of the load to be placed in the early, middle, or later years of the loan as may be desired. In the case of some public improvements (such as schools or bridges) the maximum usefulness comes in the earlier years and the process of repaying the cost should be expedited in these years; but in the case of some other improvements (such as parks and recreation spaces) the maximum value to the community may not be reached for ten years or more, hence the process of repaying the cost should not be expedited at the outset.[1] Opinions differ as to whether sinking fund bonds or serial bonds are the more attractive to investors, but neither seem to have an advantage under all circumstances. Today the serials seem to be preferred. At any rate the serial plan is rapidly gaining in favor.[2]

The Municipal Debt Situation in Europe and America Compared.

In the cities of Europe, during the past ten years, the burden of debt has been everywhere increased, in many instances enormously increased. This has been particularly true of the years since the close of the War. Many European cities have not been able to balance their budgets and have been obliged to liquidate heavy deficits by the issue of bonds. More especially has this been the case in the German and Austrian cities which

[1] Cf. *above*, pp. 135-136.

[2] The Massachusetts Municipal Finance Act (*Acts and Resolves of 1913*, Ch. 719) provided that none but serial bonds should thereafter be issued by any Massachusetts city or town.

have rolled up debts of tremendous proportions. The cities of the United States, on the contrary, have been able to improve their financial position during this same decade. Their indebtedness, taken as a whole, has appreciably increased during these years, but it has not increased so rapidly as assessed valuations or municipal income.

The Striking Progress of American Cities in This Field

Other notable improvements in the municipal debt situation have also been made throughout the United States during the years since 1900. The laws relating to municipal borrowing have grown stricter; the practice of issuing bonds in order to pay current expenses has become less common, although it has by no means disappeared.[1] Two decades ago, moreover, it was a not uncommon practice to borrow money for thirty or forty years in order to pay for public improvements, such as street pavements, which could not reasonably be expected to give service for that length of time. Quite frequently a new pavement had to be laid before the old one had been fully paid for. This abuse of the municipality's borrowing power has now been largely eliminated by state laws or by the influence of public opinion. In some cities, indeed, the attempt has been made to follow a pay-as-you-go policy, defraying the cost of all public improvements out of current revenue, or, at any rate, borrowing only at the same rate that the older debts are paid off. But this plan, if too rigidly followed, involves a serious injustice to the present generation of taxpayers. When money is needed for improvements which will redound to the advantage of future citizens it is only equitable that future citizens should be called upon to bear their fair proportion of the cost. It is neither equitable nor expedient that the taxpayers of today should be given the alternative of shouldering the whole burden or going without some essential improvement. On the other hand it should not be forgotten that, if the history of the world proves anything, future generations will have troubles enough of their own and should not be saddled with an initial legacy of burdens which do not rightfully belong to them. The city should strive to strike a fair balance between the needs of the present and the rights of the future.

[1] In Chicago, for example, an issue of bonds amounting to several million dollars was authorized in 1921 to fund a deficit which had been caused by letting the current expenditures exceed the revenue.

A Word in Conclusion.

A word in conclusion. How infinite in their scope and variety are the problems of the modern city! No one, even though he devote his whole life to the work, can hope to obtain a mastery of them all. Problems of government, of administration, of law, or engineering, of sociology, and of finance crowd in from every quarter. Every year they become more numerous, more complicated, more diversified, more difficult. The great city is a stupendous thing—the most intricate piece of social mechanism that the hand of man has created. Who that knows London, for example, can measure in his mind the length and the breadth, the height and the depth of that leviathan community? "That living flood, pouring through these streets, knowest thou whence it is coming, whither it is going? . . . These fringes of lamplight struggling up through smoke. . . . That stifled hum of midnight when traffic has lain down to rest . . . and only vice and misery, to prowl or moan like nightbirds, are abroad. . . . What a fermenting vat lies simmering and hid! Gay mansions, with supper rooms and dancing rooms are full of light and music and high swelling hearts. . . . Wretchedness cowers into truckle-beds or shivers hunger-stricken into its lair of straw . . . while councillors of state sit plotting, and playing their high chess game, whereof the pawns are men." [1]

The Dream of a Better City.

The dream of a better city is one of the oldest in human history. All literature is saturated with it. It is a very long time since poets began to sing and prophets to write of the city beautiful, the holy city, the eternal city, the city of light, the city of God. And always the city! It was the theme of Plato, of Vergil, and of Saint Augustine. Do not the closing chapters of Holy Writ portray the vision of a great and faultless city descending out of heaven, twelve thousand furlongs square, its streets of gold and its walls garnished with precious stones,—a city that had no need of sun or moon to shine upon it; a city in which there was neither hunger, nor sorrow, nor oppression; a city into which there entered nothing that defileth or worketh abomination? This vision of a better city has been before the eyes of mankind for nearly two thousand years. "It has been the goal of civilization down to this hour of the night, when, however vaguely and dimly, the ideal stirs the thousands in this feverish town going about their strange and various businesses,

[1] *Sartor Resartus*, Ch. iii.

pleasures, devotions, sacrifices, sins. It has been the everlasting dream of humanity. And humanity will continue to struggle for it, to struggle toward it. And some day, somewhere, to the sons of men the dream will come true."[1]

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